FERC/FEIS-0045FS
SCH 85081912

BLM LIBRARY
88074729

MOJAVE-KERN RIVER-EL DORADO
Natural Gas Pipeline Projects

Final Supplement to the Final Environmental Impact Report/Statement

VOLUME VII
WyCal Supplement
Letters and Comments

CALIFORNIA STATE LANDS COMMISSION
FEDERAL ENERGY REGULATORY COMMISSION

October 1988

CCI

id ; 88074729

TD
194.5
.M64
1988
v.7

MOJAVE-KERN RIVER-EL DORADO

Natural Gas Pipeline Projects

Final Supplement to the Final Environmental Impact Report/Statement

October 1988

VOLUME VII

WyCal Supplement
Letters and Comments

CALIFORNIA STATE LANDS COMMISSION
1807 13th Street
Sacramento, California 95814

and

FEDERAL ENERGY REGULATORY COMMISSION
825 North Capitol Street
Washington, D.C. 20426

Chambers Group, Inc.

BLM Library
Denver Federal Center
Bldg. 50, OC-521
P.O. Box 25047
Denver, CO 80225

MOJAVE-KERN RIVER-EL DORADO NATURAL GAS
PIPELINE PROJECTS FINAL EIR/EIS
AND
FINAL WYCAL SUPPLEMENT

MASTER TABLE OF CONTENTS

VOLUME I - MOJAVE, EL DORADO, EL PASO, AND TRANSWESTERN

Summary
Chapter 1 Introduction
Chapter 2 Description of Proposed Projects
Chapter 3 Affected Environment
Chapter 4 Environmental Consequences
Chapter 5 CEQA Alternatives

VOLUME II - KERN RIVER

Chapter 1 Introduction
Chapter 2 Description Of Proposed Projects
Chapter 3 Affected Environment
Chapter 4 Environmental Consequences
Chapter 5 CEQA Alternatives
References
Glossary
Volume I Appendices
Volume II Appendices

VOLUME III - COMPARISONS AND RECOMMENDATIONS

Chapter 1 Interstate Systems Comparative Analyses
Chapter 2 Intrastate System Alternatives Comparison Analyses
Chapter 3 Conclusions and Recommendations
List Of Preparers

VOLUME IV - MAPS (includes WyCal)

VOLUME V - LETTERS AND COMMENTS

VOLUME VI - WYCAL SUPPLEMENT

Summary
Chapter 1 Introduction
Chapter 2 Description of Proposed Projects
Chapter 3 Affected Environment
Chapter 4 Environmental Consequences
References
Appendices
VOLUME III SUPPLEMENT
Chapter 1 Interstate Systems Comparative Analyses
Chapter 2 Intrastate System Alternatives Comparison Analyses
Chapter 3 Conclusions and Recommendations
List of Preparers

VOLUME VII - WYCAL SUPPLEMENT LETTERS AND COMMENTS

TABLE OF CONTENTS

VOLUME VII

	Pages
LETTERS FROM FEDERAL AGENCIES	FA-1 to FA-15
LETTERS FROM STATE AGENCIES	SA-1 to SA-23
LETTERS FROM LOCAL AGENCIES	LA-1 to LA-10
LETTERS FROM GROUPS AND INDIVIDUALS	GI-1 to GI-15
LETTERS FROM MOJAVE PIPELINE CO.	MO-1 to MO-96
LETTERS FROM KERN RIVER GAS TRASMISSION CO.	KR-1 to KR-99
LETTERS FROM WYOMING-CALIFORNIA PIPELINE CO.	WY-1 to WY-117
LETTERS FROM INTERVENORS	IN-1 to IN-120
PUBLIC MEETING TRANSCRIPTS AND COMMENTS	PM-1 to PM-60

Federal Agency Comments

FEDERAL AGENCIES

		Pages
FA1	Environmental Protection Agency	FA-1 to FA-8
FA2	U.S. Department of Agriculture, Forest Service, Intermountain Region	FA-9 to FA-12
FA3	U.S. Department of Agriculture, Soil Conservation Service, Wyoming	FA-13
FA4	U.S. Army Corps of Engineers, Los Angeles District	FA-14

SEP 9 1988

FILED
OFFICE OF THE SECRETARY
88 SEP 12 PM 2:37
FEDERAL ENERGY REGULATORY COMMISSION
PUBLIC REFERENCE ROOM

CP85-437-000

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

[Environmental Protection Agency]

Lois B. Cashell
Acting Secretary
Federal Energy Regulatory Commission
825 North Capitol Street
Washington, D.C. 20426

Dear Ms. Cashell:

The Environmental Protection Agency (EPA) has reviewed the draft supplemental environmental impact statement (DSEIR/S) titled Mojave-Kern River-El Dorado Natural Gas Pipeline, WyCal Supplement. Our comments on the DSEIR/S are enclosed.

Under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, EPA is required to review and comment on this DSEIR/S.

We have classified this DSEIR/S as Category EO-2, Environmental Objections-Insufficient Information (see the attached "Summary of Rating Definitions and Follow-up Actions"). This DSEIR/S is rated EO primarily because of potential adverse impacts to water quality, sensitive habitats (wetland/riparian areas), and endangered species from construction and operation of the proposed WyCal pipeline. Under the "preferable" WyCal variation 172 streams and 254 acres of riparian habitat would be crossed and 9,922 acres of threatened or endangered species habitat would potentially be affected. Significant impacts to erosive soils, ground water, and wildlife habitat may also occur under the WyCal variation.

In sharp contrast, the integrated intrastate alternatives would result in little or no pipeline construction and the attendant environmental impacts. We concur with the DSEIR/S conclusion that the integrated intrastate alternatives would be far superior from an environmental perspective to any of the proposed interstate alternatives (DSEIR/S, p. S-5). We strongly recommend that the Commission not certify the interstate alternative(s) unless a significant difference in the level of service for the various alternatives is clearly substantiated. Since Phase I of the administrative hearings required by the FERC certification process has addressed the issues of gas supply and firmness of service, we request that information pertaining to these issues be disclosed in the supplemental final EIR/S. The broad dissemination of this information through the NEPA process is necessary to ensure adequate public and agency review of the factors relevant to the Commission's decision-making process.

Although environmental impacts from pipeline construction and operation appear to comprise the bulk of project-related environmental impacts, we understand that the drilling, gathering, supply, distribution, and delivery facilities necessary to provide expanded natural gas service could have significant impacts, particularly to threatened and endangered species. These impacts should be fully addressed in the supplemental final EIS in accordance with Section 1502.16 of the Council on Environmental Quality Regulations. Additionally, the optional certification process, under which the WyCal application was filed, appears to allow the potential for certification of two interstate alternatives without a demonstration of need for the project. If this is a possibility, the supplemental final EIS should fully address the cumulative impacts which could result from construction of the WyCal alternative in conjunction with the various interstate alternatives.

EPA appreciates the opportunity to review this DSEIR/S. Please send us three copies of the supplemental final EIS when it is filed with the EPA Headquarters Office. If you have any questions, please call me at (415) 974-8083 (FTS 454-8083), or have your staff contact David Powers at (415) 974-8187 (FTS 454-8187).

Sincerely,

Deanna M. Wieman

Deanna M. Wieman, Director
Office of External Affairs

Enclosure (four pages)

cc: I. Benkin, FERC ALJ
C. Rule, DOJ
C. Dedrick/M. Griggs, CSLC
B. Arvedlund, FERC
T. Rado, USFWS
J. Canaday, SWRCB
M. Fogelman, CPUC
M. Minich, SCGC
A. Lepage, EPA HQ
M. Hammer, EPA Region 8

Comments

FA1-1 1. The DSEIR/S does not adequately address the issues of gas supply, firmness of service, or the ability of the WyCal project to meet supply and service needs. As stated in our July 11, 1987 and April 15, 1988 comment letters on the draft and final EIR/S, these issues should be addressed through the NEPA process. Page 1-2 of the DSEIR/S states that Phase I of the administrative hearings dealt with all issues other than the issue of the adequacy of the EIS. Among the issues that Phase I addressed were impacts to intra/interstate service and gas supply issues. The DSEIR/S further adds that these hearings are transcribed and are available for viewing at FERC. We do not believe that the availability of transcripts in the FERC Washington, D.C. office affords the public and agencies an adequate opportunity to review and analyze the firm service and gas supply issues critical to the Commission's decision-making process.

We understand that the transcripts are voluminous and that it would be impractical to include them in the final supplemental EIS (FSEIR/S). However, a summary of these issues is essential to an understanding of which alternatives may meet the project purpose. For example, page 1-3 of the DSEIR/S indicates that enhanced oil recovery (EOR) operators have experienced great physical and cost consequences on their operations as a result of interruptions or curtailment of firm service from the intrastate system. Has an approximate quantification of the physical and cost consequences been provided to FERC? Do interruptions of firm service occur daily, weekly or monthly? Does curtailment of service result in a known percentage drop in production? The original FEIR/S (p. 1-2) states that 100% firm service is not essential to the EOR operators. What is the service level FERC considered essential for EOR operations? Does existing intrastate service meet this service level, and with what degree of certainty will the interstate alternatives meet the essential and 100% firm service levels? This type of information is basic to understanding FERC's decision-making process. We recommend that these issues be summarized in the FSEIR/S to afford the public and reviewing agencies insight into the factors and criteria the Commission will consider in its certification decision.

FA1-2 2. Page 1-9 of the DSEIR/S states that "the WyCal project would have no new impact on environmental resources in California, Colorado, New Mexico, or Texas which have not already been fully addressed in the FEIR/S." As stated in EPA's July 11, 1987 and April 15, 1988 comment letters on the DEIR/S and FEIR/S, potential project impacts to water quality, beneficial uses, and wetland/riparian habitat are not adequately addressed. Although we continue to concur with the staff conclusion that the intrastate alternatives are far environmentally superior to the interstate alternatives, we do not believe that the DSEIR/S sufficiently addresses the WyCal project's potential environmental impacts.

FA1-1 The staff feels that the information sought and questions raised by the EPA go far beyond the level of detail required by Section 1502.13 of the CEQ regulations. These regulations state that the EIS shall briefly specify the underlying purpose and need of the proposed action. The FERC staff has always felt that issues concerning project need, market supply data, firmness of service, and other economic/non-environmental concerns are outside the scope of an EIR/S. The rationale for this was presented in Section 1 of the Draft Supplement. Nevertheless, staff presented additional information in the Draft Supplement in response to conversations and correspondence with EPA because, in the EPA's words, such "information would greatly enhance the ability of the general public and regulatory/resource agencies to understand and evaluate the merits of various alternatives." An informal Administrative Draft Supplement was also sent to the EPA and informal comments were received and responded to by staff. Now come additional comments seeking even more non-environmental information, including a request that the Phase I hearing transcripts be summarized, again for the understanding of the "public and reviewing agencies."

Staff is deeply concerned about the level of non-environmental detail sought and the purpose of such an exercise, particularly when such information is publicly available and those "public and reviewing agencies" referenced to in the EPA comments (who allegedly seek this information) have been present and/or represented throughout the FERC hearing and are therefore knowledgeable on the subject issues covered in the Phase I hearings. The staff is further concerned that, having put such additional information in the Draft Supplement, at the request of the EPA, the intervening California parties (who oppose the projects) are now critical of the staff putting it in and are requesting its removal. (See PG&E's Comment Nos. IN1-1 and IN1-6 and staff's responses).

The staff will put in some additional information with respect to gas curtailment by SoCal which recently has come to staff's attention, the position of the U.S. Department of Justice, and will also attempt to further explain its regulatory process in the Final Supplement's Introduction. With respect to a summary of the need and firmness of supply issues, the staff feels that such a summary was provided in the Draft Supplement. Staff shall not summarize the entire Phase I transcripts. This would take man-months to prepare and the relevancy of such an exercise is questionable for the reasons stated earlier. Reliance on sworn testimony

FA1-1 (cont.) produced contemporaneously in Phase I is not only permissible for environmental decisionmaking, but obviously avoids the injudicious duplication of effort and waste of the Commission's resources. Furthermore, since it was stated on page 1-25 of the Draft Supplement that the Commission intended to issue the Final Supplement in October, 1988, this is an unreasonable request and would be physically impossible to do in such a timeframe. If the EPA wishes to take issue with this, the EPA can do so through the comment period on the Final Supplement. The period for such comment closes October 15, 1988 with reply comments to be filed directly with the Commission by October 31, 1988.

FA1-2 The purpose of that sentence on page 1-9 of the Draft Supplement was to give guidance to the reader as to the scope of the Draft Supplement and the limits to which comments were sought. Thus, issues associated with environmental impacts in the states of California, Colorado, New Mexico, and Texas are outside of the scope of the WyCal Supplement and comment. As stated further on page 1-9 of the Draft Supplement, the staff does not intend to allow this Supplement to resurrect old issues (which EPA's Comment No. 2 is doing) nor entertain comments on old issues. The comment period for old issues is closed. To be fair to all parties, EPA's Comment No. 2 is considered a comment not only previously addressed in the FEIR/S (but the Draft Supplement as well), i.e., an old issue for which the comment period is closed. EPA should also review PG&E's comments later in this volume in which PG&E requests that EPA's comments of the FEIR/S (and staff responses) be removed from the Final Supplement. Again, staff has concerns as to how the EPA's comments are being used by intervening (opposing) parties. (See previous response and our response to PG&E's Comments IN1-1 and IN1-6.)

FA1-3 3. Page 1-9 of the DSEIR/S indicates that it is too early to describe the extent of ancillary facility and oil field development which, to varying degrees, is an integral component of all of the proposed alternatives. It is recognized in the DSEIR/S that there are environmental impacts associated with this appurtenant development but these impacts are not addressed. We believe that this is a critical omission, particularly since an August 28, 1987 biological opinion from the U.S. Fish and Wildlife Service states that "construction and use of either the "preferred" El Dorado and Mojave pipeline projects, or the alternative Kern River pipeline system, and construction of portions of the associated El Paso and Northwestern pipelines are likely to jeopardize the continued existence of the clay phacelia, Unita Basin hookless cactus, spineless hedgehog cactus, desert tortoise, San Joaquin kit fox, blunt-nosed leopard lizard, and giant kangaroo rat...".

This biological opinion did not consider the ancillary facility and oil field development which may occur in the range of the above-referenced species as well as the range of seven additional threatened or endangered species. We understand that this pipeline-related development could impact threatened or endangered species under both the intrastate and interstate alternatives. The FEIR/S should fully address the potential environmental impacts from ancillary facility and oil field development. See comment #4 regarding the need to address the risk and severity of possible impacts.

FA1-4 4. Although the DSEIR/S addresses the potential impacts of pipeline construction and operation in a generalized manner, we believe that additional information is needed to fully disclose the various alternatives' potential impacts. While the comparative information (e.g., acres of erosive soil, number of streams crossed, acres of wetland habitat crossed) provided in the DSEIR/S clearly demonstrates that the WyCal alternative would have far greater environmental impacts than the other alternatives, it does not provide adequate information for determining specific project impacts. For example, the acreages of impacted wetland/riparian habitat is given for the various WyCal variations. However, impacts to the quality, functions and values of these habitats and mitigation for those impacts are not adequately addressed. As indicated in comment #3 above, information on impacts from ancillary facilities and oil field development is not addressed at all. Given this lack of detailed information, it is not clear how the mitigation measures in volume III of the FEIR/S will adequately mitigate environmental impacts from the project." (DSEIR/S, p. 1-9)

The FSEIR/S should include more specific information on the habitats which would be impacted, the nature of the impacts, and mitigation for those impacts. A high impact scenario should be assumed if further information will not be provided. Section 1502.22(b) of the Council on Environmental Quality regulations

FA1-3 This comment is extremely unfair to staff. Not only is this an old issue outside the scope of comment (see previous response), but EPA is attempting to use selected language in the USFWS' Biological Opinion in a manner that is "unbefitting" to EPA. The EPA conveniently cites the USFWS' Jeopardy Opinion but neglects to cite that the Biological Opinion also suggested conservation measures (which FERC staff adopted as mitigation measures in the FEIR/S) that will prevent threat to the endangered species listed in this comment), i.e., implementation of these measures will result in a non-jeopardy finding.

Specifically, the Opinion identified, on pages 14 and 15, alternatives necessary for the protection of the clay phacelia, Uinta Basin hookless cactus, and spineless hedgehog cactus. These alternatives have been adopted in the FEIR/S and are contained in Vol. III Supplement, Recommendation No. 129. Alternatives identified in the Opinion for the protection of the desert tortoise (on page 15) have been adopted in the FEIR/S and are contained in the Vol. III Supplement, Recommendation Nos. 85 and 86. The Service's alternatives required to protect populations of the San Joaquin kit fox, blunt-nosed leopard lizard, and giant kangaroo rat have been also adopted in the FEIR/S and are contained in the Vol. III Supplement, Recommendation Nos. 81 and 82. Recommendations 81(a) and 81(c) specifically address access roads, staging/laydown areas, structures, and other related facilities.

The Opinion recognized the potential for the proposed projects to result in the incidental take of federally listed species and established incidental take limits for the blunt-nosed leopard lizard, San Joaquin kit fox, and giant kangaroo rat. Measures designed to minimize incidental take of these species were identified on pages 18-23 of the Opinion. These measures have been adopted in the FEIR/S and are contained in the Vol. III Supplement, Recommendation No. 77, 78, 81, 82, 84, 89, and 91.

In addition, the Opinion contained, on pages 24-26, conservation recommendations for federally listed species. While these non-binding conservation recommendations have not been adopted in the FEIR/S verbatim, the intent of these recommendations are contained in the Vol. III Supplement, Recommendation Nos. 70, 73, 75, 76, 77, 78, 79, 83, 84, 88, 89, 90, and 91.

In a more recent letter to FERC dated September 2, 1988, the USFWS restated two important opinions, the first which specifically addresses access roads and other ancillary facilities and the timing of such review:

FA1-3 (cont.)

> "Measures incorporated by the Commission into the Mojave-Kern River-El Dorado Natural Gas Pipeline Projects FEIR/S will substantially reduce the potential for incidental take of federally listed species during pipeline construction and operation. Specific locations of access roads and other project ancillary facilities will also be forwarded to our agency for review. We will eventually review this information and provide additional recommendations for protecting federally-listed species and their associated habitats, consistent with mitigation measure 81(c) in Vol. III of the FEIR/S."
>
> "We trust that your Commission will adopt all reasonable and prudent alternatives to avoid jeopardy to listed species and the measures specified to minimize incidental take as a part of its final decision. Only in that way will the Commission be in compliance with Section 7 of the Endangered Species Act."

Inasmuch as the USFWS recognized that there is a mechanism for post-certificate review and the staff has adopted the reasonable and prudent alternatives to avoid jeopardy, as well as the measures specified to minimize incidental take, the staff continues to feel that the analysis and mitigation provided in the FEIR/S is more than adequate.

FA1-4 The Draft Supplement was prepared using precisely the same methodologies and criteria as the FEIR/S and adopts the analysis presented in the FEIR/S. As staff has previously responded, there simply has to be a time when old issues cannot be resurrected. The mitigation measures call for post-certification, by pre-construction site specific studies, including studies which will address impacts from ancillary facilities. The FEIR/S process has included state and federal agencies with jurisdiction over the resources that may be affected by pipeline construction, including state environmental agencies, BLM, USFWS, USFS, USAF, and DOI. None of these agencies has objected to the pre-construction studies called for in the FEIR/S; all appear to agree with the FEIR/S that such studies are a normal and acceptable means of ensuring that proper, site-specific mitigation measures are employed.

There is no requirement either in NEPA, or the CEQ or FERC regulations that cites that all site-specific resource studies must be available for all the projects now rather than as a part of the mitigation measures recommended by the FEIR/S. The only argument that can be made goes only to the timing of such studies. The studies will be done before actual construction commences and the studies will in fact be used, in consultation with Commission and other appropriate federal and state agency staffs, to "fine tune" the actual placement of facilities to avoid or minimize environmental impacts. This process will particularly involve the USFWS, BLM, USFS, and the various State Fish and Game Departments and SHPO's.

FA1-4 (cont.) states that "if the information relevant to adverse impacts is essential to a reasoned choice among alternatives and is not known and the overall costs of obtaining it are exorbitant...the agency shall weigh the need for the action against the risk and severity of possible adverse impacts were the action to proceed in the face of uncertainty." The FSEIR/S should address the risk and severity of possible adverse impacts given the lack of site-specific information in the DSEIR/S.

FA1-5 5. Sections 1505.1(c) and (d) of the Council on Environmental Quality regulations state respectively that agencies shall adopt procedures to ensure that: 1) "relevant environmental documents, comments, and responses be part of the record in formal rulemaking or adjudicatory proceedings" and 2) "relevant environmental documents, comments, and responses accompany the proposal through existing agency review processes so that agency officials use the statement in making decisions. Additionally, 42 U.S.C. Section 4332 requires that "[p]rior to making any detailed statement, the responsible Federal official shall consult with and obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved. Copies of such statement and the comments and views of the appropriate Federal, State and local agencies... shall accompany the proposal through the existing agency review process" (emphasis added). We request that EPA's comment letters on the DEIR/S, FEIR/S, DSEIR/S and our forthcoming letter on the FSEIR/S be included or summarized in the administrative record and the pipeline certification recommendation from the administrative law judge to the Commission.

FA1-4 (cont.) Staff understands EPA's concerns, but more studies now (which create project delay, unnecessary expense, and unnecessary waste of Commission staff time and resources) is not the answer. The mechanism is in place to ensure proper environmental review and that review will be conducted in total consultation with the other various federal and state agencies, as well as the successful applicant. To make it clear that these measures apply to the ancillary facilities, language has been added to the revised Vol. III Supplement, Section 3.1. Staff will also add a new Mitigation Measure No. 156 which will require an applicant to return to the Commission for further environmental review when the precise location of gathering facilities, delivery facilities, access roads, and other ancillary facilities is determined.

FA1-5 EPA's comment letters on the DEIR/S and FEIR/S are already included in the administrative record before Administrative Law Judge Isaac D. Benkin. The former letter is included in the FEIR/S which was identified as Exhibit No. CS-25. The second letter was separately identified as Exhibit No CA-39 when it was tendered for the evidentiary record. The second letter is also summarized in Section 1.6 of both the Draft and Final Supplement. EPA's comment letter on the Draft Supplement is presented here. Any letter of comment on the Final Supplement should be filed directly with the Commission as outlined in Section 1.3.7 of the Final Supplement. The deadline for such comment is October 15, 1988, with reply comments to be filed by October 31, 1988.

SUMMARY OF RATING DEFINITIONS AND FOLLOW-UP ACTION*

Environmental Impact of the Action

LO—Lack of Objections
The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC—Environmental Concerns
The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

EO—Environmental Objections
The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU—Environmentally Unsatisfactory
The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of environmental quality, public health or welfare. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1—Adequate
EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2—Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3—Inadequate
EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

---

*From: EPA Manual 1640, "Policy and Procedures for the Review of Federal Actions Impacting the Environment."

United States Department of Agriculture
Forest Service
Intermountain Region
324 25th Street
Ogden, UT 84401

[USDA Forest Service, Utah]

Reply to 1950

Date SEP 1 2 1988

Mr. Robert K. Arvedlund
Project Manager
Federal Energy Regulatory Commission
Environmental Evaluation Branch
824 North Capitol Street, NE
Washington, DC 20426

Dear Mr. Arvedlund:

Enclosed are our comments on the WyCal Draft Supplement to the Kern River Final EIR/EIS.

Sincerely,

T. C. Raederer

for J. S. TIXIER
Regional Forester

Enclosure

The discussions on the alternatives are not consistent throughout the document. Chapter 2 describes the alternatives as they deviate from the Wasatch Variation. Chapter 3 describes the affected environment of the alternatives as they deviate from the Wasatch Variation. Chapter 4, however, discusses the environmental consequences of the total length of the Wasatch Variation modified by each alternative.

The comparison of the environmental consequences should be limited to alternative deviations from the Wasatch Variation. This would make the chapters consistent and give the concerned public a better understanding of the impacts in the area they are concerned about.

The information on the 14.1 miles of the Wasatch Variation between MP 38.5 and 52.6 should be shown in the discussions and on the tables in Chapter 3 and 4, rather than referring to Volume II of the FEIR/S, which refers to the total 145 mile length. In some cases it is difficult to relate the tables in supplement with those in the FEIR/S. For example: Table 4.3-1 of the supplement does not compare in mile post and location to the referenced Table 4.4-1 in the FEIR/S.

Another example of the confusion caused by discussing the total length is found on page 4-46, 4.3.1.4.2. It states 12 perennial streams would be crossed having a M - H sensitivity to pipeline construction and then refers to table 3.2-2. This table only list one perennial stream. This discrepency occurs in all the alternatives.

Limiting discussions on alternatives to deviations from the Wasatch Variation will allow for more specificity and will be much more clear to the concerned public. We recommend the discussion in Volume III Supplement on impacts of each alternative as they relate to the Wasatch Variation be moved to section 4.0 of Volume VI.

There is no grazing in Davis County. There will be no impacts on grazing for any of the variations.

In the comments that follow we have provided information that would clarify the impacts of each alternative.

FA2-1 Surface Water

Page S-22, Table S-8	Significant surface runoff on soil with poor reclamation potential which may take 5 to 10 years to stabilize would have some Residual Significant Impact.

FA2-2 Terrestrial Biology

Page S-16, Table S-5 Page S-21, Table S-7 Page S-23, Table S-8	Loss of wetland and riparian vegetation will result in a Residual Significant Impact. The magnitude of impacts cannot be reduced if the wetland or riparian area is lost. If the mitigation measure to "replace in kind" implies to reestablish riparian or wetland vegetation on the site, then the Significant Impact column should show "temporary loss."

FA2-1 Comment accepted, see change to Vol. VI, Table S-8.

FA2-2 The citation under Significant Impact which references "loss of... wetland and riparian vegetation" in Tables S-5, S-7, and S-8 refers to potential impacts which would be anticipated in the absence of recommended mitigation measures. While implementation of these measures would not avoid temporary losses, no residual significant impact to wetland or riparian vegetation is anticipated.

	Location	Comment		Response
	Ground Water			
FA2-3	Page S-20, Table S-7	The Residual Significant Impact is blank.	FA2-3	Comment accepted, see Vol. VI, Table S-7.
	Bountiful Boulevard Alternative			
FA2-4	Page 4-47, 4.3.1.6.1	This Alternative would be buried in an existing street and would have no impact on the perennial or intermittent streams between the Ward Canyon Coridor and the gravel pit. This should be shown in the analysis of impacts of this alternative.	FA2-4	Comment accepted, see changes to Vol. VI, Sections 4.3.1.6.1 and 4.3.1.4.1.
FA2-5	**Page Lane Alternative** Page 3-34	Paragraph II - Change "and fewer" in the third line to "but more."	FA2-5	Comment not accepted. House counts of both Pages Lane and Porters Lane have been made.
	Bountiful Peak Alternative			
FA2-6	Page 2-17, 2.3.1.3	Paragraph I, second sentence. Change to read "From this location the alternative would head north-northwest 2½ miles along a jeep trail, which approximately follows the boundary between Davis and Morgan Counties, to its junction with the Skyline Drive Road." Add "It would then follow the Skyline Drive Road approximately 3 miles to the southwest side of Bountiful Peak. As it turns west from Bountiful Peak, it crosses 1,000 feet of contour trenches at the head of Ford canyon, which is part of a major watershed restoration project.	FA2-6	Comment accepted, see Vol. VI, Section 2.3.1.3.
FA2-7	Page 3-21, 3.2.1.2.3	Paragraph III - Add to the end of first sentence: ". . . between Ford Canyon and Steed Creek." Change second sentence to read: "This ridge is a very large paleo-landslide with zones of mass instability, evidenced by numerous slumps and debris slides on the ridge and in the canyons." Delete the third sentence.	FA2-7	Comment accepted, see Vol. VI, Section 3.2.1.2.3.
FA2-8	Page 4-44, 4.3.1.3	The Skyline Drive traverses .4 of a mile of 65 percent slopes. Widening this road to accommodate pipeline construction would create cutslopes over 150 feet high, resulting in 7 acres of soil disturbance on very steep slopes with low reclamation potential. There would be 10 foot plus cut banks on the remaining 2.6 miles of the Skyline Drive traversed by the pipeline, increasing the acres of soil disturbance with low reclamation potential.	FA2-8	Comment accepted, see Vol. VI, Section 4.3.1.3.
FA2-9	Page 4-44, 4.3.1.12	The widening of the Skyline Drive Road, for approximately 3 miles to accommodate the pipeline construction, would result in high cut and/or fill slopes through very light colored soil and rock. This, along with the pipeline construction down the ridge from Bountiful Peak to the valley, would create a visual scar that could be seen from North Salt Lake to Centerville. Due to the poor revegetation potential on much of this, the scar would be very prominent for many years.	FA2-9	Comment accepted, see Vol. VI, Section 4.3.1.12.3.

FA2-10	Page 4-57	Paragraph I - Change the "3.5" miles of roaded natural in the first sentence to "4.4" miles. The acreage will then agree with the 8.4 miles shown in Table 3.2-6 on page 3-32 and the maps (MP 38.5 to MP 46.9)	FA2-10	Comment partially accepted, see Vol. VI, Section 4.3.1.8.4.
	Table 4.7-1			
FA2-11	Page 4-84	Vegetation - Oak woodlands will resprout from roots where top soil has not been cleared. They can be reestablished into cleared areas by scattering acorns on the disturbed areas.	FA2-11	Staff does not agree with this statement. Growth of woody vegetation within the permanent ROW would not be encouraged.
FA2-12		Grazing - Rewrite: Destruction of forage would be minimal on any grazing allotment. (.1 to .5 of 1 percent of AUMs). Grazing patterns may have to be altered to keep livestock off from the adjacent areas until the vegetation is reestablished. This would prevent the livestock from harvesting some of the forage.	FA2-12	Staff agrees with the statement but feels the text of the table adequately addresses this issue.
FA2-13	Page 4-84	Soils - Uncontrolled off-road vehicle (ORV) use will result in both short and long term impact to soils.	FA2-13	Comment partially accepted, see Vol. VI, Table 4.7-1.
FA2-14	Page 4-85	Cultural Resources - Inventory and mitigation of cultural sites will result in no significant short- or long-term impact. However, disturbance or destruction of unidentified sites during construction could result in both short- and long-term loss to scientific understanding.	FA2-14	Staff does not agree with this statement. Impacts to cultural resources would occur. Mitigation Measure 106 would reduce the significance of impacts to cultural resources.
FA2-15		Visual Resources - Uncontrolled ORV use along the pipeline right-of-way will keep vegetation from being reestablished and will retain a visual scar.	FA2-15	The text of the table indicates that long-term impacts would remain.
FA2-16	Volume III Supplement Page 3-2	Second paragraph, 4th line - Change "may" to "would."	FA2-16	Comment accepted, see Vol. III Supplement, Section 3.0.

United States
Department of
Agriculture

Soil
Conservation
Service

Room 3124, Federal Bldg.
100 East B Street
Casper, Wyoming 82601

[USDA Soil Conservation Service, Wyoming]

August 16, 1988

Ms. Lois Cashell, Acting Secretary
Office of the Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, D.C. 20426

Dear Ms. Cashell:

SUBJECT: Mojave - Kern River - El Dorado Natural Gas Pipeline Projects
Draft Supplement to the Final Environmental Impact Report/Statement

The Wyoming Soil Conservation Service has reviewed the Draft Supplement to the Mojave-Kern River-El Dorado Final Environmental Impact Report/Statement and has no comment.

We appreciate the opportunity to review the document.

Sincerely,

Frank Dickson

FRANK S. DICKSON
State Conservationist

cc:
Mr. ~~Robert Arvedlund, Project Manager, FERC,~~ Washington, D.C.

FA3-1 Thank you for your comment.

The Soil Conservation Service
is an agency of the
Department of Agriculture

DEPARTMENT OF DEFENSE
UNITED STATES OF AMERICA

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, CORPS OF ENGINEERS
P.O. BOX 2711
LOS ANGELES, CALIFORNIA 90053-2325

September 9, 1988

REPLY TO
ATTENTION OF
Office of the Chief
Environmental Resources Branch

Mr. Robert Arvedlund
Project Manager
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, D.C. 20426

Dear Mr. Arvedlund:

We have reviewed the Draft Supplement to the Mojave-Kern River-El Dorado Final Environmental Report/Statement (FEIR/S), as requested in a letter from your office, dated July 25, 1988.

Work in waters of the United States might require a permit under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act. We cannot determine from the submitted information the extent of the Corps' jurisdiction over this project. Please give our Regulatory Branch documentation that clearly describes the area and extent of any proposed work in watercourses and adjacent wetlands to help us make that determination.

If the proposed project involves any Federal assistance through funding or permits, compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470f) and implementing regulations, 36 CFR 800, will be required.

The proposed plan does not conflict with navigation, flood control, or existing or authorized plans or programs of the Corps of Engineers. We have no comments on the Draft Supplement to the FEIR/S.

Thank you for the opportunity to review and comment on this document.

Sincerely,

Robert S. Joe
Chief, Planning Division

[U.S. Army Corps of Engineers, Los Angeles District]

FA4-1 Thank you for your comment.

State Agency Comments

STATE AGENCIES

		Pages
SA1	Arizona Commission of Agriculture and Horticulture	SA-1
SA2	Arizona Department of Environmental Quality	SA-2 to SA-3
SA3	California Department of Fish and Game	SA-4 to SA-5
SA4	California Department of Planning and Development Services	SA-6
SA5	California Office of Planning and Research	SA-7
SA6	California Public Utilities Commission	SA-8 to SA-23

Arizona Commission of
Agriculture and Horticulture
1688 WEST ADAMS • PHOENIX, ARIZONA 85007 • (602) 255-4373

FIELD SERVICES

District Offices
Fruit & Vegetable Standardization

Office of the State Chemist
State Agricultural Laboratory

DATE: August 9, 1988

TO: Mr. Arvelund, (FERC) Project Manager
Office of Pipeline and Producer Regulation

FROM: Richard A. Countryman, Rac
Eastern Regional Director

SUBJECT: Mojave-Kern River El Dorado Natural Gas Line Project
Impact Report/Statement Volume VI WyCal Supplement
SAI NO: AZ 880729-80-0117

Location of the El Paso Natural Gas Line and Transwestern crossing Arizona would by the construction destroy protected native plants on private, state or federal Rights of Way granted under Arizona Revised Statutes 3-901-910.

Those companies planning to construct the pipeline are required by this statute, known as the Arizona Native Plant Law, to give 30 days notice on private and federal lands, and 60 days on state lands prior to construction to provide the time for inventory of protected native plants and provide for their salvage, and construction realignment to save large populations.

RAC:mb

[Arizona Commission of Agriculture and Horticulture]

SA1-1 Thank you for your comments. Mitigation measures in the FEIR/S, III (#112 for Mojave, #120 for El Dorado, #125 for El Paso, and #134 for Transwestern) address your concerns regarding the Arizona Native Plant law.

SA-2

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Rose Mofford, Governor
Ronald Miller, Acting Director

August 4, 1988

California State Lands Commission
1807 13th Street
Sacramento, California 95814

Dear Sirs:

Thank you very much for providing us with the opportunity to review your Draft Environmental Impact Statement.

Based on the air quality section of this report, it can be concluded that the impact of this project in the state of Arizona is insignificant. However, we request that care be taken to minimize short term adverse air pollution impacts during the construction period. Every effort should be made to limit the amounts of dust released, including incidental emissions caused by strong winds or excessive disturbance of soil. Applicable State regulations are contained in A.A.C. Title 18, Chapter 2, R18-2-405, a copy of which will be attached.

Thank you for your efforts in creating an environmentally sound project. If you should have any questions or concerns please contact our office at 257-6965.

Sincerely,

Ali Modarres
Air Quality Planner

The Department of Environmental Quality is An Equal Opportunity Affirmative Action Employer

Central Palm Plaza Building 2005 North Central Avenue Phoenix, Arizona 85004

[Arizona Department of Environmental Quality]

SA2-1 Thank you for your comments. The FEIR/S, III/Mitigation Measures 1, 2, and 3 should alleviate air quality concerns.

R18-2-405. Roadways and streets

A. No person shall cause, suffer, allow or permit the use, repair, construction or reconstruction of a roadway or alley without taking reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne. Dust and other particulates shall be kept to a minimum by employing temporary paving, dust suppressants, wetting down detouring or by other reasonable means.

B. No person shall cause, suffer, allow or permit transportation of materials likely to give rise to airborne dust without taking reasonable precautions, such as wetting, applying dust suppressants, or covering the load, to prevent particulate matter from becoming airborne. Earth or other material that is deposited by trucking or earth moving equipment shall be removed from paved streets by the person responsible for such deposits.

Historical Note

Former R9-3-405, Other industries, renumbered R9-3-406, new Section adopted eff. Sept. 17, 1975 (Supp. 75-1). Former Section R9-3-405 repealed, new Section R9-3-405 adopted eff. May 14,1979 (Supp. 79-1). Amended eff. Oct. 2, 1979 (Supp. 79-5). Former Section R9-3-405 renumbered without change as Section R18-2-405 (Supp. 87-3).

R18-2-406. Material handling

No person shall cause, suffer, allow or permit crushing, screening, handling, transporting or conveying of materials or other operations likely to result in significant amounts of airborne dust without taking reasonable precautions, such as the use of spray bars, wetting agents, dust suppressants, covering the load, and hoods to prevent excessive amounts of particulate matter from becoming airborne.

Historical Note

Former Section R9-3-405, renumbered eff. Sept. 17, 1975 (Supp. 75-1). Former Section R9-3-406 repealed, new Section R9-3-406 adopted eff. May 14, 1979 (Supp. 79-1). Former Section R9-3-406 renumbered without change as Section R18-2-406 (Supp. 87-3).

R18-2-407. Storage piles

A. No person shall cause, suffer, allow, or permit organic or inorganic dust producing material to be stacked, piled, or otherwise stored without taking reasonable precautions such as chemical stabilization, wetting, or covering to prevent excessive amounts of particulate matter from becoming airborne.

B. Stacking and reclaiming machinery utilized at storage piles shall be operated at all times with a minimum fall of material and in such manner, or with the use of spray bars and wetting agents, as to prevent excessive amounts of particulate matter from becoming airborne.

Historical Note

Adopted eff. May 14, 1979 (Supp. 79-1). Former Section R9-3-407 renumbered without change as Section R18-2-407 (Supp. 87-3).

STATE OF CALIFORNIA—THE RESOURCES AGENCY GEORGE DEUKMEJIAN, Governor

DEPARTMENT OF FISH AND GAME
330 Golden Shore, Suite 50
Long Beach, CA 90802
(213) 590-5113

FILED
OFFICE OF THE SECRETARY
88 SEP 12 PM 2:28
REGULATORY COMMISSION

September 9, 1988

Lois Cashell, Secretary
Federal Energy Regulatory Commission
825 N. Capitol Street, N.E.
Washington, D.C. 20426

Dear Secretary Cashell:

We have reviewed the Supplement to the Final Environmental Impact Report for the Mojave-Kern River-El Dorado Natural Gas Pipeline Projects, WyCal Supplement (Supplement) and have the following comments.

The Supplement contains many mitigation measures necessary to
protect the desert tortoise habitat which the proposed project
SA3-1 would impact. However, we believe the WyCal proposal will have
additional impacts to tortoise within the Piute Valley which were
not addressed in the Mojave-Kern River-El Dorado EIR. These
impacts need to be fully identified and compensation provided. If
the WyCal proposal is to proceed, additional compensation will be
necessary to offset the cumulative impacts of this and other
SA3-2 projects. Many of the proposed mitigation measures will offset or
reduce impacts to individual tortoises but offer no benefit to the
land which will be lost to disturbance. Therefore, it is
recommended that the project sponsor develop a compensation
package for the desert tortoise habitat which will be destroyed by
these projects. The desert environment does not heal quickly once
it has been disturbed, and it is the project proponent's
responsibility to compensate for this loss as required under the
California Environmental Quality Act. Currently the minimum
compensation ratio for desert tortoise habitat is five acres
purchased for each acre lost. However, this ratio is for low
density habitat and where the proposed pipeline crosses into
medium and high density habitat a higher compensation ratio may be
required.

The project could cause an additional impact to the desert tortoise that is unacceptable to us. This year raven predation on the tortoise has increased and disease outbreaks have occurred in two populations. These factors, plus the loss of habitat to human uses, may have resulted in an 80 percent decline in these populations in the past six years. Therefore, any new disturbance to tortoise habitat will require compensation to offset impacts. The land purchased will be in the nearest high density crucial habitat.

[California Department of Fish and Game]

SA3-1 Staff disagrees. The FEIR/S analyzes all aspects of the WyCal route within California via the discussions for the Kern River and Mojave routes and the East Las Vegas System Alternative in the FEIR/S. The WyCal proposal includes no additional facilities in California over those previously discussed in the FEIR/S.

SA3-2 The mitigation measures presented in the FEIR/S with respect to desert tortoise are adequate. Mitigation Measure No. 85 specifically calls for pre-construction surveys. Additional environmental documentation will be required for site specific impacts once facilities' locations are known more precisely. Other mitigation measures would also protect desert tortoise. In any event, a FERC certificate does not give an applicant any right to avoid state-required permits, such as that required by the California Department of Fish and Game (CDFG). Both FERC and SLC will consult with CDFG to identify additional mitigation measures to protect the desert tortoise, if appropriate. If compensation is still an issue at that time, it can be worked out between the successful applicant and the respective state agency(s).

Since this habitat will cross many streams and washes in California, it will be necessary for the project sponsor to file streambed alteration notifications with our Department and have a signed agreement before starting work in any of these streams or washes. Failure to obtain such an agreement could result in crews being cited and delay development of the project until such a time as an agreement is reached.

Thank you for the opportunity to review and comment on this project. If you have any questions, please contact Jack L. Spruill of our Environmental Services staff at (213) 590-5137.

Sincerely,

Fred Worthley

Fred Worthley
Regional Manager
Region 5

cc: M. Giusti
J. St. Amant
B. Vernoy

RANDALL L. ABBOTT
DIRECTOR
David Price III
Assistant Director

2700 M Street
Suite 100
Bakersfield, CA 93301

(805) 861-2615

DEPARTMENT OF PLANNING AND DEVELOPMENT SERVICES

August 26, 1988

FILE: Agency California-SLC

FILED
OFFICE OF THE SECRETARY
88 SEP -6 AM 10:49
REGULATORY
COMMISSION

Office of the Secretary
Federal Energy Regulatory Commission
825 North Capitol St., N.E.
Washington, DC 20426

Re: Wy Cal Supplement, Mojave-Kern River-El Dorado Natural Gas Pipeline Projects.

Ladies and Gentlemen:

Thank you for the opportunity to comment upon the above noted project. Our concerns filed by letter dated September 11, 1985 were appropriately addressed in the final Environmental Impact Reports for the original projects. We have no further comments at this time.

Very truly yours

RANDALL L. ABBOTT, Director
Planning and Development Services

By: Fred Simon
Principal Planner

FS:pj

[California Department of Planning and Development Services]

SA4-1 Thank you for your comment.

STATE OF CALIFORNIA—OFFICE OF THE GOVERNOR GEORGE DEUKMEJIAN, *Governor*

OFFICE OF PLANNING AND RESEARCH
1400 TENTH STREET
SACRAMENTO, CA 95814

[California Office of Planning and Research]

88 SEP -9 PM 2:20

September 8, 1988

Mary Griggs
State Lands Commission
1807 13th Street
Sacramento, CA 95814

Subject: Mojave-Kern River-El Dorado Gas Pipeline - SCH# 85081912

Dear: Ms. Griggs:

The State Clearinghouse submitted the above named environmental document to selected state agencies for review. The state agency review period is now closed and none of the state agencies have comments. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please contact John Keene at 916/445-0613 if you have any questions regarding the environmental review process. When contacting the Clearinghouse regarding this matter, please use the eight-digit State Clearinghouse number so that we may respond promptly.

Sincerely,

David C. Nunenkamp
Chief
Office of Permit Assistance

SA5-1 Thank you.

FILED
OFFICE OF THE SECRETARY
88 SEP 12 AM 11:26
FEDERAL ENERGY
REGULATORY COMMISSION
PUBLIC REFERENCE ROOM

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Mojave Pipeline Company, et al.	Docket Nos. CP85-437-000, et al.
Wyoming-California Pipeline Company	Docket Nos. CP87-479-000, et al.

COMMENTS OF THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA ON THE DRAFT SUPPLEMENT TO THE FINAL ENVIRONMENTAL IMPACT REPORT/STATEMENT

The Public Utilities Commission of the State of California ("CPUC") hereby submits its comments on the Draft Supplement to the Final Environmental Impact Report/Statement ("Draft SEIS") issued on or about July 25, 1988.

SA6-1 1. The notice inviting comment on the Draft SEIS states (at p. 4) that "[c]omments on issues covered in the FEIR/S published in December 1987, will not be addressed in the Final Supplement, i.e., the comment period for old issues is closed." The Draft SEIS states (at p. 1-9) that "[t]he comment period for old issues is closed" and that "the focus of this supplement is limited to the differences between the WyCal proposal and the Kern River/Mojave proposals." These statements improperly discourage and preclude members of the public and interested state and federal governmental agencies from commenting on the entirety of the WyCal proposal, a proposal upon which they have never previously been given an opportunity to comment. This limitation on the right to comment deprives the Commission of the full information required by NEPA and thus deprives it of taking

[California Public Utilities Commission]

SA6-1 Thank you for your perspective. The Draft Supplement is not being renoticed.

SA6-1 (cont.) a "hard look" at the impacts of WyCal. The availability of the draft SEIS should be renoticed and the public and interested agencies should be advised that they may freely comment on the entire draft SEIS and the entire WyCal project without limitation and that such comments are in fact welcome and will be considered as part of the EIS process.

SA6-2 2. The SEIS should study, analyze and address in detail the significance of WyCal's being an "open access" transporter. Since WyCal will presumably have an obligation to serve customers all along its route (see, e.g., Tr. 5640 (testimony of Kern River witness Wadlington)), the environmental impacts of such service must be looked at. The location of potential delivery lines all along the proposed route and, indeed, the effect of such service on the ability of WyCal to meet the service needs of the Kern River EOR market, i.e., supposedly one of WyCal's primary project goals, are matters which must be addressed. No good faith attempt to study these matters has yet been undertaken. Information as to potential "open-access" customers, their potential loads, the type of service they would take, the location of their supply sources and burner tips, the economic and environmental impacts serving them would cause, and the consequent need for mitigation involve considerations different from those relating to Mojave and Kern River. Without study and analysis of these matters, the SEIS is inadequate.

SA6-3 3. The Draft SEIS contains no cost-benefit study or analysis pertaining to WyCal, no study or analysis of the need for WyCal and no comparative study or analysis of the need for WyCal as opposed to the need for competing projects and the "no

SA6-2 This issue was discussed in the FEIR/S and on pages 1-9, 1-33, and 1-34 of the Draft Supplement.

SA6-3 Cost-benefit studies are not required by NEPA or CEQA. As stated in the discussions on pages 1-5, 1-10, 1-11, and 1-12 of the Draft Supplement, WyCal does not have to demonstrate market or gas supply data. The alternatives suggested by this comment have previously been analyzed in the FEIR/S, i.e., the East Las Vegas System Alternative. With respect to the data on contracts, this is the subject matter of the Phase I hearings at FERC.

SA6-3 (cont.) action" alternative. Nor does it consider the alternatives of building WyCal to the California border to a point of interconnection with the California utilities, which could then deliver the gas to California end users. Nor does it consider the alternative of service to the Kern County EOR market by the existing LDC system, with incremental facilities additions, as necessary, to ensure adequate quality of service. In this connection, the Draft SEIS fails to consider and analyze the implications of the fact that the California utilities presently have signed long-term contracts with EOR producers representing very substantial total transportation volumes. These contracts show that LDC service meets the needs of the EOR market. The precise customers and transportation volumes presented by these contracts can easily be obtained by referring to the hearing record in Docket No. CP85-437-000, et al., and to recent Pacific Gas and Electric Company and Southern California Gas Company advice filings with the CPUC and CPUC resolutions, which are official decisions of the CPUC, approving such long-term EOR contracts. Notably, Southern California Gas Company recently executed a long-term contract with Tenneco Oil Exploration and Production Company, an affiliate of the sponsors of the Kern River proposal. A quick review of CPUC records suggests that the

SA6-3 (cont.) long-term EOR transportation contracts obtained by the California LDCs are as follows:

Long-Term EOR Transportation Contracts of the California LDCs[1]

Customers	Maximum Volume (MMcfd)[2]	Term (Yrs.)	CPUC Advice Filings (No.)	CPUC Resolution Approving (No.)	Effective Date
SoCalGas					
Texaco, Inc.	200	10	1527	D.85-12-102	12/20/85
Berry Petroleum	17	10	1691	2722	4/22/87
Energy Reserve, Inc.	17	23	1722	2747	9/23/87
Caterpillar Capital, Inc.	6	13.5	1773	2786	4/27/88
Midway-Sunset Cogen. Co.	68	20	1784	2790	5/25/88
Shell Western E&P, Inc.	250	20	1787	2793	6/17/88
Mid-Sun Partners Ltd. Partnership	5.8	15	1793	2802	8/24/88
Tenneco Oil E&P	19.7 (up to 40)	5 (up to 15)	1806	Pending	-

---

[1] The LDCs are presently supplying additional EOR gas transportation service under short-term contracts having terms of less than five years.

[2] Some contracts state volumes in terms of quantity (MMcf) and others in terms of heat content (therms or MMBtus). For simplicity's sake, this Table assumes 1000 Btus per cubic foot of gas.

SA6-3
(cont.)

Customers	Maximum Volume (MMcfd)	Term (Yrs.)	CPUC Advice Filings (No.)	CPUC Resolution Approving (No.)	Effective Date
Chalk Cliff Ltd. Partnership	12.5	15	1809	Pending	-
McKittrick Ltd. Partnership	12.5	15	1810	Pending	-
PG&E					
High Sierra, Ltd.	12.5	15	1435	2765	12/17/87
Double C., Ltd.	12.5	15	1435	2765	12/17/87
Kern Front, Ltd.	12.5	15	1435	2765	12/17/87
Kern Bluff, Ltd.	12.5	15	1471	2807	8/24/88
Live Oak, Ltd.	12.5	15	1471	2807	8/24/88
Badger, Ltd.	12.5	15	1471	2807	8/24/88
Granite Road, Ltd.	12.5	15	1471	2807	8/24/88
Bear Mountain, Ltd.	12.5	15	1471	2807	8/24/88
Mt. Poso Cogen. Co.	6.7	15	1478	Pending	-

SA6-3 (cont.)

Total Maximum Volume
Represented by Long-Term EOR
Transportation Contracts of the
California LDCs[3]

SoCalGas	-	608.5 MMcfd
PG&E	-	106.7 MMcfd
Total	-	715.2 MMcfd

The SEIS should consider these facts in determining whether there is a need for WyCal or any other project, whether the California LDCs can meet the needs of the market, and whether, in view of the unmitigable adverse environmental consequences of WyCal and other projects and the absence of need for those projects, the only acceptable alternative is the "no action" alternative. Without analysis addressing these matters, and without up-to-date information and analysis concerning the extent of Kern County EOR operators' contractual commitments to LDC (*i.e.*, "no action" alternative) service, the SEIS is inadequate.

SA6-4 4. The Draft SEIS is inadequate because it does not contain sufficient information and reasoning to enable the public, state and federal agencies and the trier-of-fact to distinguish the relative impacts of the available alternatives

---

[3] LDC contract volumes reflected in the evidentiary record of this proceeding include SoCalGas's contracts with Texaco (CA-28), Shell (CA-40), Caterpillar Capital (CA-41) and Midway-Sunset Cogeneration (CA-42) and PG&E's contracts with Sierra, Ltd. (KR-112), Kern Front, Ltd. (KR-113) and Double C, Ltd. (KR-114). The total maximum volume represented by these contracts is 561.5 MMcfd. On July 1, 1988, the Presiding Administrative Law Judge indicated that he was disinclined to recieve evidence of further LDC contracts with EOR operators into the record. (Tr. 13592.)

SA6-4 The basis for determining impacts and effects of these impacts were outlined in the FEIR/S for each respective discipline. The distinction between mitigable and unmitigable impacts has been presented in Vol. VI, Section 4.6. Table 4.6.1 lists residual significant impacts. If this column states "yes", the mitigative measures are not fully mitigating the impact. This information is also provided in the summary for the other applicants in Tables S-2 through S-8.

SA6-4 (cont.) for meeting the goals of the project. Its conclusion that all alternatives, including WyCal, are environmentally "acceptable" fails to rest on information which adequately quantifies the differences in environmental impact between competing alternatives and its finding of "acceptability" fails to weigh the need for each alternative against its environmental costs. In addition, its discussion of environmental impacts fails to provide sufficient information to apprise the Commission as to the basis upon which it determined that some impacts can adequately be mitigated and some impacts cannot. The SEIS must provide sufficient articulation of the standards that were used to distinguish mitigable impacts from unmitigable impacts so the Commission can understand how the distinction was made and reasonably trust its reliability.

SA6-5 5. The SEIS improperly fails to analyze the cumulative impacts of WyCal, Mojave, Kern River and/or other pending pipeline projects. The Commission's determination that WyCal is not mutually exclusive from the other pending proposals (see SEIS, p. 1-7) plus the Commission's recent Declaratory Order on Non-Environmental Issues, Wyoming-California Pipeline Company, 44 FERC ¶61,000 (1988), which suggests that WyCal will be granted an optional expedited certificate, make manifest that a cumulative impacts analysis is required.

SA6-6 6. The Draft SEIS fails to discuss the impacts on California ratepayers who remain on the LDC system of WyCal's proposed bypass of the California LDCs. If WyCal takes load presently being served by the LDCs or if it takes "incremental" load which would have been served by the LDCs in the absence of

SA6-5 Staff's position on cumulative impacts is clearly and adequately presented in Section 4.4 of the Draft Supplement.

SA6-6 This issue was clearly identified in the FEIR/S as being beyond the scope of the FEIR/S. The same holds true for the Draft Supplement.

SA6-6 (cont.) bypass, California residential, commercial and industrial customers who remain on the LDC system will have to pay higher rates by reason of the bypass. CPUC President Hulett testified that this cost would amount to an undiscounted $1.6 billion if one assumed a 700 MMcfd bypass load, a 3¢ per therm lost fixed cost contribution and a 20-year bypass term. (See also testimony of CPUC witness William W. Hogan, Exhibits CA-1 and CA-4, suggesting a discounted cost-shift impact on LDC ratepayers of $500-700 million.) President Hulett's testimony also assumed a higher cost of bypass for California ratepayers if the bypass line takes non-EOR California industrial customers, as WyCal proposes to do. In addition, even if no bypass line is constructed, the certification of such a line could raise rates to California residential, commercial and industrial customers by necessitating LDC discounting to keep potential bypass customers on the LDC system. This increased cost could cause some residential, commercial and industrial customers to switch to other less expensive, less environmentally acceptable fuels, such as fuel oils or wood. This impact of certification and/or construction needs to be studied and analyzed in the SEIS.

SA6-7 7. The SEIS fails to study and evaluate the non-EOR delivery lines that will have to be constructed in California in order to make WyCal's service possible, nor does it evaluate the gathering and supply facilities that will have to be constructed in order to make such service possible. It thus fails to describe fully the WyCal project and to provide notice and an opportunity to comment concerning all facilities necessary to achieve project goals. This failure also makes it impossible to

SA6-7 This issue was addressed in the FEIR/S and on pages 1-9, 1-33, and 1-34 of the Draft Supplement.

SA6-7 (cont.) assess the environmental impacts of the whole project or the nature of necessary mitigation measures to limit those impacts.

SA6-8 8. In its testimony, WyCal indicated that site-specific studies not yet performed might require it to leave the study corridor for a substantial distance. (Tr. 13,241.) It also conceded that its route and mitigation plans are not fully known at this time. (Tr. 13,182, 13,241, 13,243.) Indeed, WyCal's witness was unable to say whether required mitigation might raise the estimated cost of the project from $665 million to $2 billion. (Tr. 13,242.) Under these circumstances, WyCal's project description is entirely inadequate.

SA6-9 9. The SEIS is inadequate because it does not apprise the Commission of the environmental deficiencies of its OEC program. The SEIS should candidly inform the Commission that the OEC procedures cannot meet the requirements of NEPA and the NGA because there is no logical way to balance environmental costs against a determination of need which is based on an artificial evidentiary presumption rather than evidence. Indeed, the Commission seems to have recognized this problem, requiring OEC applicants to meet a more stringent environmental standard than normal. (See 18 C.F.R §157.206(d)(4).) However, it waived that requirement as to WyCal (see Wyoming-California Pipeline Company, 44 FERC ¶61,001 (1988)), even though an administrative agency is bound to follow its own regulations. The SEIS should indicate that the purported waiver necessitates heightened environmental scrutiny and further study before a final supplement can be issued.

SA6-8 This is not a comment on the Draft Supplement. It is a comment on one witness in a hearing.

SA6-9 As stated on page 1-10 of the Draft Supplement, the Supplement is not the vehicle to submit comments on the merits of the OC program. Such comments were sought and accepted during the rulemaking process setting up the OC program.

SA6-10	10. The SEIS is inadequate because it purports to evaluate the irretrievable commitment of resources which will be required by long-term contracts, pipeline construction and EOR investment but does not consider the possibility of breakthroughs in technology which might eliminate the need for the project during the lifetime of the project. (See SEIS, p. 4-80.) It fails adequately to explain its conclusion that "no resources will be overcommitted." Indeed, it is difficult to perceive how that conclusion can be reached without evaluating need; the construction of pipelines which are not needed patently overcommits resources.	Neither NEPA nor CEQA require analysis that speculates on possible breakthroughs in technology.
SA6-11	11. The SEIS does not evaluate or present the intrastate/"no action" alternative as a viable alternative for meeting project goals. It reaches no conclusions as to the ability of that alternative to meet the reasonable service needs of the market.	This alternative is fully presented in the FEIR/S.
SA6-12	12. The SEIS fails to identify the customers, or any single customer, who will utilize WyCal, nor does it identify the sources of supply that will be used to effect service.	This was fully discussed in the FEIR/S and on pages 1-4, 1-5, 1-33, and 1-34 of the Draft Supplement.
SA6-13	13. Tables S-1, S-2, S-3, S-4, S-5, S-6 and S-7 purport to show the adverse impacts of the competing interstate proposals. However, Table S-8, which depicts WyCal's impacts, shows different impacts and mitigation measures than do the Tables for Mojave and Kern River, even at locations at which WyCal is utilizing the Mojave and/or Kern River routes. These discrepancies are not explained in the SEIS.	Table S-8 provides information on the WyCal proposal. Since WyCal represents a combination of Kern River and Mojave routes, the impacts associated with the route would differ from either Kern River or Mojave. The discrepancies in the mitigation measures result from WyCal's use of the FEIR/S, Vol. III mitigation measures. The mitigation measures listed for the other routes utilize mitigation measures outlined in the FEIR/S, I and II.
SA6-14	14. The SEIS inadequately discusses the position of California by presenting at p. 1-4 a characterization and	

SA6-14 (cont.) purported summary of the California Energy Commission Biennial Report, while omitting to mention that the report was excluded from evidence for the truth of its contents in the comparative evidentiary hearing.

If the SEIS is to include such a summary, it should also include a summary of the CPUC's position in this case, referring in detail to the sworn testimony of President Hulett and Professor Hogan -- testimony which both witnesses defended on cross-examination.

SA6-15 15. The "three basic flaws" in LDC service described at the bottom of p. 1-3 are factually incorrect. With respect to the first, low priority of service, EOR transportation customers presently enjoy priority 3A, which puts them ahead of most noncore customers, and no transportation customer has yet been curtailed by the LDCs. With respect to the second, short-term rates, the LDCs have executed long-term contracts with EOR customers, some having terms of up to 20 years. For example, the recent contract between Shell and Southern California Gas Company for the transportation of up to 250 MMcfd is a 20-year contract. And the third alleged "flaw," the absence of competitive rates, is belied by the fact that the rates comprehended by recently-negotiated long-term contracts range from 22¢ to 37¢ per MMBtu, with small or no additional charges for line losses and compressor fuel -- rates which are substantially better than those likely to be offered by the applicants.

SA6-16 16. The WyCal project description is inadequate because WyCal is "leaving the Commission to guess" at whether or not distribution lines are included in its request for authority.

SA6-14 The report is a California state document. The EPA has consistently urged the FERC to present all facets of the need for these projects. The report was cited as evidence of a wide divergence of opinion. It is obvious that other parties disagree and this viewpoint was also presented in the Draft Supplement.

SA6-15 Whether the flaws are factually correct or incorrect is the subject matter of the Phase I hearings at FERC. It is, however, the allegations as set forth by the EOR operators as the reasons for wanting interstate natural gas service. Also see staff's response later in Vol. VII to PG&E's comment IN1-6.

SA6-16 See response to SA6-7.

SA6-16 (cont.) (Tr. 13,192.) The SEIS is accordingly unable to fully evaluate the project's impacts.

SA6-17 17. If, as the SEIS concludes (p. 4-79), it it not reasonably foreseeable that more than one pipeline would be built to serve the EOR market, then the certification of WyCal will eliminate any need for Mojave and Kern River. Under this scenario, the absence of need for Mojave and Kern River, when weighed against the conceded unmitigable environmental impacts of each of those projects, compels the conclusion that neither can be environmentally "acceptable." The SEIS should state that if any one of the three projects is certificated, the other two will be rendered environmentally "unacceptable." The SEIS should also state that in view of the clear superiority of the intrastate alternatives, none of the proposed interstate lines is environmentally "acceptable."

SA6-18 18. The SEIS has not shown that any of the proposals, including WyCal, can meet the goals of the project by providing the Kern County EOR market with reliable service at competitive rates. WyCal may be unable to supply any service, reliable or otherwise, to Kern County EOR operators because of its "open access" obligation to serve all comers. Accordingly, the SEIS is wrong in presuming that any of the applicants can meet the goals of the project. It is similarly wrong in singling out the intrastate system as possibly being unable to meet project goals (SEIS, p. 3-5), particularly when the LDC's showing of their ability to serve is considered.

SA6-19 19. The SEIS should also discuss the significance of the present low world oil price to the determination of need for the

SA6-17 Thank you for your perspective.

SA6-18 This issue has been fully addressed in the FEIR/S and pages 1-2 to 1-6 and page 1-33 of the Draft Supplement.

SA6-19 This issue was beyond the scope of the FEIR/S and remains so for this Supplement.

SA6-19 (cont.) projects. At the time of these comments, West Texas Intermediate and RAAC prices, two benchmarks, are in the $14/bbl range. This is a price level significantly below the National Petroleum Council scenarios used as a basis for the Composite of the EOR Customer Group. Indeed, at this price level, it is unlikely that steam injection to produce Kern County heavy crude is cost-effective and profitable, i.e., the gas consumed is likely to be more costly than the value of the oil produced. The likelihood that oil prices will remain at present low levels should be considered in the SEIS in connection with the question of need for the project.

SA6-20 20. The Draft SEIS is also inadequate for its reliance on post-certification surveys, studies and analyses as a mitigation measure. The absence of the baseline information, which is relegated to collection in post-licensing studies, puts the cart significantly before the horse. An EIS "shall be prepared early enough so that it can serve practically as an important contribution to the decisionmaking process and will not be used to rationalize or justify decisions already made." (40 C.F.R. § 1502.5.) Adequate information must be collected before the initial decision and the Commission's decision, both of which are "major decision point[s]" under the Commission's regulations. (18 C.F.R. § 380.11(a)(2).) The issuance of a certificate before the gathering of important environmental information leads inescapably to the conclusion that the certificate decision is not the product of reasoned decisionmaking.

21. The EIS process in this case allocates too little time for full and fair consideration of these and other comments on

SA6-20 The staff disagrees. There is no requirement in NEPA, CEQA, CEQ regulations, or FERC regulations that require all site-specific and various resource studies must be available for all the projects now rather than as a part of the mitigation measures recommended by the FEIR/S. The only argument that can be made goes solely to the timing of such studies. The studies will be done before actual construction commences and the studies will in fact be used, in consultation with the Commission and other appropriate Federal and state agency staff, to "fine tune" the actual placement of facilities to avoid or minimize environmental impacts.

SA6-21 the Draft SEIS. With the minimum 45-day comment period requiring the submission of comments on the Draft SEIS on September 12, 1988, and the Commission's requiring the issuance of the SEIS on October 1, 1988 (see Mojave Pipeline Company, 44 FERC ¶61,210 (1988)), and in view of the time necessary for revision and printing, Staff will have little more than a few days to digest and consider the comments submitted. This is not merely unfair to Staff; it ensures that the consideration of submitted comments will be perfunctory and the formulation of meaningful responses futile. Staff will be unable to respond seriously and honestly to comments which raise legitimate concerns and will thus be forced to provide facile justifications for inadequate work rather than to cure inadequacies called to its attention. The result of this hasty process will be a Commission decision resting on incomplete and deficient environmental information. Such a process violates the requirement that an EIS "not be used to rationalize or justify decisions already made." (40 C.F.R. § 1502.5.)	SA6-21 Staff thanks you for your sympathy.

Conclusion

The noted deficiencies in the Draft SEIS should be corrected before the document is finalized and before a decision is rendered at any major decision point.

Respectfully submitted,

/s/ JANICE E. KERR

Janice E. Kerr

/s/ J. CALVIN SIMPSON

J. Calvin Simpson

/s/ MARK FOGELMAN

Mark Fogelman

505 Van Ness Avenue
San Francisco, CA 94102
(415) 557-2563

Attorneys for the People
of the State of California and
the Public Utilities Commission
of the State of California

September 9, 1988

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a copy of the foregoing document on each party on the restricted service lists in Mojave Pipeline Company, et al., Docket Nos. CP85-437-000, et al., and Wyoming-California Pipeline Company, Docket Nos. CP87-479-000, et al., by first-class mail.

Executed at San Francisco, California, this 9th day of September, 1988.

/s/ MARK FOGELMAN

Mark Fogelman

Local Agency Comments

LOCAL AGENCIES

		Pages
LA1	Centerville City, Utah	LA-1 to LA-4
LA2	Davis County Planning Commission, Farmington, Utah	LA-5 to LA-6
LA3	Davis County Public Works, Farmington, Utah	LA-7 to LA-8
LA4	Kearns Town Council, Kearns, Utah	LA-9 to LA-10

CENTERVILLE CITY

521 North 400 West • Centerville, Utah 84014 • (801) 295-3477

Mayor
Dean C. Argyle

City Council
Michael B. Barton
Bruce E. Erickson
Nancy W. Gibbs
Kent M. Lindsey
Douglas E. Nielson

City Administrator
David A. Hales

[Centerville City, Utah]

August 29, 1988

AUG 31 PM
COMMISSION

Office of the Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, D.C. 20426

Gentlemen:

LA1-1 This letter is intended to inform you that on August 16, 1988, the Centerville City Council took unanimous action to object to and oppose the routing of the proposed WyCal-Kern River natural gas pipeline through our community as shown in the Draft Supplement to the Final Environmental Impact Report/Statement, dated July, 1988.

Specifically, we object to and oppose the route variations identified in the Draft Supplement as the Pages Lane Alternative and the Bountiful Peak Alternative.

The Pages Lane Alternative would have a devastating impact on our community. Pages Lane is a major roadway in our city, lined with homes, a school, and a substantial commercial area. Located within a block of Pages Lane are two churches.

Disruption due to construction and/or maintenance of the pipeline, while admittedly temporary in nature, would nonetheless have a substantial effect on our community.

J.A. Taylor Elementary School, located on Pages Lane, could suffer classroom disruptions if construction took place during the school year. Children traveling to and from school would also be affected during the construction period, and during any subsequent maintenance work on the pipeline.

The effect on the numerous businesses adjacent to Pages Lane would certainly be severe. Businesses would suffer as shoppers avoided the area during construction. Sales tax revenue to the city would decrease, and the viability of businesses might even be threatened during this period.

LA1-1 Thank you for your comments.

Pages Lane is already crowded with underground utility lines. Already in place are a sewer line, two separate irrigation water lines, a Centerville City water line, a Bountiful City water line, a 36-inch storm drain, and natural gas, electrical, and telephone service lines.

In addition, the pipeline would have to negotiate utilities buried in cross streets, including a major fiber-optics line in Main Street.

These numerous local utility lines, scattered throughout the Pages Lane right-of-way, would make it difficult to find room to place a pipeline the size of the WyCal-Kern River pipeline.

The likelihood of damage to the WyCal-Kern River pipeline in Pages Lane would probably be greater because of the relatively frequent need for local maintenance of lines in Pages Lane.

LA1-2 The map in the Draft Supplement showing the Pages Lane Alternative is out of date, which in our minds calls into question the reliability of the entire environmental review. The map does not show the residential subdivision approved by us last year at the top of Pages Lane. If the pipeline were to follow the alignment as shown on the Draft Supplement map, it would pass right through several platted residential lots. By the time the pipeline is built, homes are almost certain to be in existence on those lots.

LA1-3 We most strenuously object to the safety hazard the pipeline would pose to the south portion of our city. The potential harm to life and property from explosion would always exist.

For example, the pipeline route shown in both alternatives would cross the Wasatch Fault at the eastern edge of our community. When the fault ruptures during an earthquake, the pipeline would surely be severed. The severity of the problems and the risk to our residents from earthquake damage would be much greater with ruptured natural gas pipelines in our city.

Surely there are better alternatives for the pipeline than to place it right in the middle of a heavily urbanized community.

LA1-2 Maps provided in any EIR/S serve several functions, but are primarily intended to allow the public to locate the proposed route, variations, and alternatives. During preparation of the FEIR/S and the Draft Supplement, every route considered in detail was thoroughly studied using aerial, automobile, and/or pedestrian (walking) surveys so that completely up to date information was utilized in the analysis.

LA1-3 See response to GI-1.

LA1-3 (cont.) The Pages Lane Alternative also shows a variation which would route the pipeline down Porters Lane in our city, several blocks to the north. This is still in the middle of a residential community, and many of the same objections pointed out above would apply to Porters Lane. Additionally, a 30-inch high pressure natural gas pipeline already is in place in Porters Lane. Placing a second pipeline in the same street would, in our opinion, just increase the risks and hazards for our residents in that area.

LA1-4 We also object to the Bountiful Peak Alternative shown in the Draft Supplement, as this would affect the north portion of our city.

LA1-5 Again, we believe the completeness and reliability of the entire EIS is called into question because of the use of out-of-date maps, and the failure to identify Centerville as a community that would be impacted by this alternative.

LA1-6 Page 1-90 of Volume III of the Draft Supplement says of the Bountiful Peak Alternative, "(this alternative)...may at some point in the future cause problems in Farmington." Map 12 of the Draft Supplement shows the Bountiful Peak Alternative passing just south of Lund Lane, within the Centerville City boundaries. While the Supplement mentions potential future problems in Farmington, it makes no mention of Centerville, the very city through which this pipeline would pass.

LA1-7 The north portion of Centerville City is planned for future residential development in the city's Master Plan. Development of this area is, in fact, imminent, as an analysis of our recent growth patterns would show. The pipeline route, as shown, would actually traverse a site owned by and planned for construction of a church in the near future.

Most of the omissions in the Draft Supplement are likely the result of using out-of-date maps. Map 12 in the Draft Supplement does not show Centerville's current city boundaries. The map also does not show the active gravel pit in the area, which the pipeline alignment would cross. This area is planned to be a storm water and flood debris retention basin for our city.

Map 12 shows that the Bountiful Peak Alternative would be located on private property just south of Lund Lane. As noted previously, this is an area where we are anticipating substantial residential growth. We are concerned that the development

LA1-4	Thank you for your comments.
LA1-5	See response LA1-2.
LA1-6	See change to Volume III Supplement, Sections 1.5.2.3 and 1.5.2.3.1.
LA1-7	Thank you for your comments.

Federal Energy Regulatory Commission
August 29, 1988
Page 4

LA1-7 (cont.) potential of property south of Lund Lane could be negatively affected by the pipeline location. To paraphrase the wording of the Draft Supplement itself, "this alternative may in the near future cause problems for development in Centerville."

LA1-8 The Pages Lane and Bountiful Peak Alternatives also concern us because of the potential impact on our watershed area. Most of the water used in Centerville City comes from the canyon streams and from wells, which are both supplied by snow and rainfall in the mountains east of the city. We are concerned that pipeline excavation could impact that watershed area, and that the potential for water contamination could occur from continuous operation and maintenance of such a pipeline.

LA1-9 These alternatives also could severely increase the possibility of mud flooding, mud flows, land sliding, and other geologic concerns we have for our canyons and mountains east of Centerville. The city is just now adjusting to the impact of the 1983 floods. This project, located in the proposed areas, would only compound these concerns and the potential for catastrophic events.

In summary, we feel there are better alternatives for the WyCal-Kern River pipeline that would have less impact on Centerville's natural and social environment.

We urge you to reject the Pages Lane and Bountiful Peak Alternatives for the routing of this proposed pipeline.

Sincerely,

Dean C. Argyle

Dean C. Argyle
Mayor

LA1-8 See changes to Draft Supplement, Sections 3.2.1.4 and 4.3.1.4.

LA1-9 Geological concerns were addressed in Sections 3.2.1.2 and 4.3.1.2 of the Draft Supplement. The staff does not favor the use of the Pages/Porters Lane or Bountiful Peak Alternatives. However, measures to mitigate these concerns are available and would be tailored to site-specific conditions if a route through Utah is chosen. See General Staff Recommended Mitigation Measures 4, 5, and 8 in the Vol. III Supplement.

[Davis County Planning Commission, Farmington, Utah]

Davis County Planning Commission

Richard J. Mayfield
Director

Davis County Courthouse, P. O. Box 618, Farmington, Utah 84025
Telephone: (801) 451-3278; 773-7800, ext. 278

August 23, 1988

Robert K. Arvedlund
Federal Energy Regulatory Commission
Environmental Analysis Branch, OPPR
825 North Capitol Street, Room 7312-J
Washington, DC 20426

Dear Mr. Arvedlund:

The Davis County Planning Commission has reviewed the WyCal Supplement to the Final Environmental Impact Report/Statement for the Mojave-Kern River-El Dorado Natural Gas Pipeline Projects and is pleased to note that alternatives to the Wasatch Variation, which were suggested by Bountiful City and supported by Davis County, are being considered. The Davis County Planning Commission continues to be concerned over the potential environmental and aesthetic problems which may be created by construction of the proposed pipeline. While sympathetic to the need for such a pipeline, Davis County does not wish to see the scenic beauty of our rugged mountains destroyed, nor this fragile environment unnecessarily disturbed.

LA2-1 *The Davis County Planning Commission is all too familiar with the impacts that slope instability in our mountains can have on communities constructed on alluvial fans at canyon mouths. Many times in our short history, debris flows generated in the mountains have damaged propert and, sometimes, caused loss of life in our population centers. The debris flows and debris floods which caused great damage and hardship to many citizens in 1983 and 1984 remain fresh on our minds. The Davis County Commissioners, in a letter to you dated April 20, 1988, pointed out that mitigation measures addressed in Volume II of the EIR/EIS concern only the pipelines and areas in the immediate vicinity of the pipeline. The Davis County Planning Commission joins the Davis County Commissioners in requesting that downstream public protection measures and liability for damages related to construction of the pipeline be addressed. Although we are concerned with the potential hazards associated with all of the proposed routes, we are most concerned with the Wasatch Variation as it would potentially impact development at the mouths of three of our canyons.*

The Davis County Planning Commission is also concerned with the aesthetic impacts of the proposed pipeline. To understand our concerns, one

LA2-1 The request for downstream public protection measures, most notably downstream debris basins, should be negotiated with the pipeline companies. Staff feels that discussions between Davis County and either WyCal or Kern River should resolve this issue. At these negotiations, design factors and costs should be addressed with some discussion of shared costs considered but the entire cost should not be borne by Kern River or WyCal.

LA2-2 *need only view Figure 3.2-1 in the WyCal Supplement to the EIR/EIS which depicts the scar which was created by the construction of a previous pipeline. Although years have passed since the pipelines construction, the scar remains clearly visible. The Davis County Planning Commission sees no purpose in creating yet another scar on our mountains. The Davis County Planning Commission strongly recommends that the proposed pipeline, if approved, be required to use the existing Mountain Fuel Pipeline corridor (i.e. the Bountiful Blvd., Pages Lane, or Porter Lane alternatives). The Davis County Planning Commission is strongly opposed to the Wasatch Variation which would impair the scenic beauty of three of our canyons.*

LA2-3 *In conclusion, the Davis County Planning Commission is concerned with the potential environmental and aesthetic problems associated with construction of the proposed Mojave-Kern River-El Dorado Pipeline Project. The Davis County Planning Commission is strongly opposed to the "Wasatch Variation" which would trend across Holbrook, Mill Creek, and North Canyons and the intervening ridges. Not only would this route damage the scenic beauty of three of our most used canyons, but would put development at the mounts of all three canyons at risk from slope-failure or erosion-induced debris flows. The Davis County Planning Commission respectfully requests that careful consideration be given to the alternative routes proposed by Bountiful City. Thank you for allowing us to present our viewpoint and express our concerns regarding the proposed pipeline. Please inform us when a decision is made regarding this matter.*

Sincerely,

DeeEll Fifield
Planning Commission Chairman

DF/ML/tlt

LA2-2 Thank you for your comment.

LA2-3 Mitigation measures have been developed to reduce the potential for both slope failure and/or erosion induced debris flows (see Mitigation Measures 4, 7, 8, 9, 10, 13, 21, 22, 24, 27, 28, and 31, Vol.III Supplement).

DAVIS COUNTY
PUBLIC WORKS
P.O. Box 618 FARMINGTON, UTAH 84025
Phone 451-3374

Sid Smith
Director

[Davis County Public Works, Farmington, Utah]

August 23, 1988

Robert K. Arvedlund
Federal Energy Regulatory Commission
Environmental Analysis Branch, OPPR
825 North Capitol Street, Room 7312-J
Washington, DC 20426

Dear Mr. Arvedlund:

Davis County Flood Control has reviewed the Mojave-Kern River-El Dorado Natural Gas Pipelines Projects Final EIR/EIS and the draft WyCal Supplement to the EIR/EIS. I am concerned over the potential slope stability and erosion problems which may occur during and following construction of the proposed "Wasatch Variation" route, should that route be the one which is selected. This route trends across Holbrook Canyon, Mill Creek Canyon, North Canyon, and the intervening ridges. Because of the history of landsliding, debris flows, and flooding associated with these canyons, I feel that construction of the pipeline using the Wasatch Variation will significantly increase the risk to communities below Mill Creek and North Canyons. I suggest that other alternative routes, such as have been proposed by Bountiful City, be considered. These routes are more favorable from a flood control viewpoint because deposits of landslide-prone soils, and water derived from melting snow or rain, are less likely to accumulate along the ridgelines.

LA3-1 As stated in a April 20, 1988, letter to you from the Davis County Commissioners, if utilization of the Wasatch Variation route is necessary, construction of debris basins in Mill Creek and North Canyons, as well as revegetation and slope-failure mitigation along the pipeline route, should be required. Removal of debris generated from construction of the pipeline from the existing debris basin at the mouth of Holbrook Canyon should also be required. Should the Wasatch Variation be the route that is chosen, please have the selected pipeline company (Kern River, WyCal, etc.) contact me so that we can discuss size, location, and type of construction for the necessary debris basins in greater detail. Davis County has spent considerable amounts of money on flood control projects in the recent past in an attempt to lower our citizens vulnerability to flood

LA3-1 The construction of debris basins should be negotiated between Davis County and either WyCal or Kern River. At these negotiations, design factors and costs should be addressed with some discussion of shared costs considered but the entire costs should not be borne by Kern River or WyCal. Revegetation and slope failure mitigation have been addressed in the FEIR/S, III/ Mitigation Measures 4, 5, 7, 8, 9, 10, 13, 15, 16, 17, 18, 19, 21, 22, 57, 58, 63, and 68.

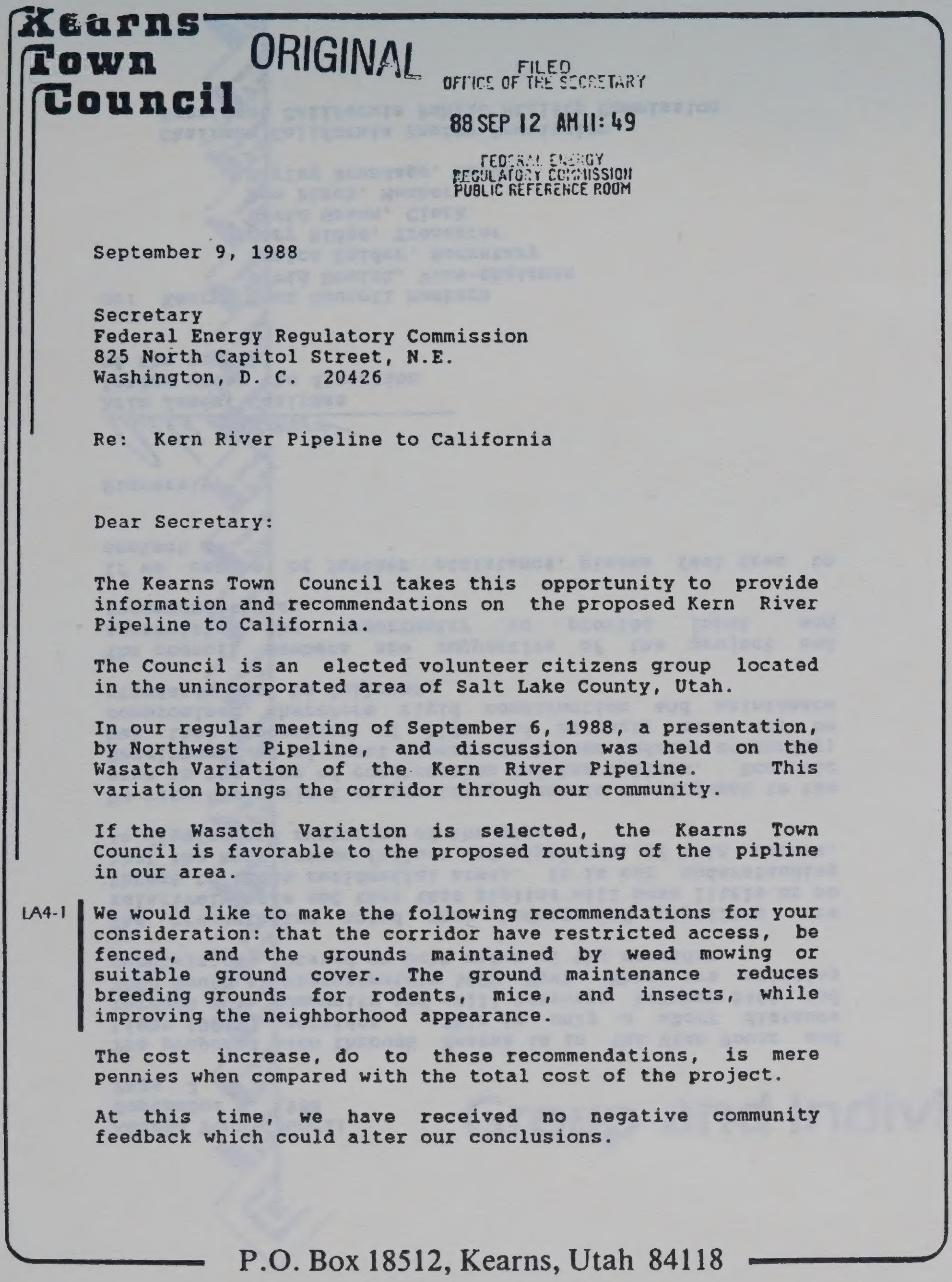
Removal of debris generated from construction of the pipeline from the existing debris basin at the mouth of Holbrook Canyon will be required. See Mitigation Measure 98 of the Vol. III Supplement.

LA3-1 (cont.) and debris-flow hazards. I feel that selection of the Wasatch Variation, without accompanying downstream mitigation measures, would be a poor decision from a flood control viewpoint. Please feel free to contact me so that we can discuss this matter in greater detail.

Sincerely,

Sidney W. Smith

Sidney W. Smith, Director
Davis County Public Works



Kearns
Town
Council

ORIGINAL

FILED
OFFICE OF THE SECRETARY
88 SEP 12 AM 11:49
FEDERAL ENERGY
REGULATORY COMMISSION
PUBLIC REFERENCE ROOM

September 9, 1988

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, D. C. 20426

Re: Kern River Pipeline to California

Dear Secretary:

The Kearns Town Council takes this opportunity to provide information and recommendations on the proposed Kern River Pipeline to California.

The Council is an elected volunteer citizens group located in the unincorporated area of Salt Lake County, Utah.

In our regular meeting of September 6, 1988, a presentation, by Northwest Pipeline, and discussion was held on the Wasatch Variation of the Kern River Pipeline. This variation brings the corridor through our community.

If the Wasatch Variation is selected, the Kearns Town Council is favorable to the proposed routing of the pipline in our area.

LA4-1 We would like to make the following recommendations for your consideration: that the corridor have restricted access, be fenced, and the grounds maintained by weed mowing or suitable ground cover. The ground maintenance reduces breeding grounds for rodents, mice, and insects, while improving the neighborhood appearance.

The cost increase, do to these recommendations, is mere pennies when compared with the total cost of the project.

At this time, we have received no negative community feedback which could alter our conclusions.

P.O. Box 18512, Kearns, Utah 84118

[Kearns Town Council, Kearns, Utah]

LA4-1 The reestablishment of suitable ground cover on areas disturbed by pipeline construction is proposed. The applicant's proposals would be supplemented by Staff Recommended Mitigation Measures 15, 19, 25, 28, and 57 (See Vol. III Supplement, Sections 3.1.2 and 3.1.7.1). While fencing the right-of-way is not required nor normally done, this would be an issue to be resolved during negotiations between the successful certified applicant and the individual landowners.

LA-10

Kearns Town Council
September 9, 1988
Page 2

The proposed path through Kearns is in the Utah Power and Light (UP&L) corridor. This is only a short distance through our community and will traverse between 5400 and 7000 South at approximately 5800 West. There are existing subdivisions located on both sides of the corridor.

The presentation noted that underground pipelines are relatively safe and that this pipline will pose little or no threat to these residential areas. It is our understanding that the most common failure of pipelines, of this nature, is digging and rupturing of the pipe.

We view the project as providing economic development to the area in the form of construction and tax dollars. Economic development is of great importance to our bedroom community; but the protection of life and property must not be compromised, therefore rigid construction and maintenace standards must be followed.

The council members are supportive of the project and appreciate the opportunity to provide input and recommendations.

If we can be of further assistance, please feel free to contact me.

Sincerely,

Arlo James

Arlo James, Chairman
Acting under the direction
of the council

cc: Kearns Town Council Members
David Howick, Vice-chairman
Janice Snider, Secretary
Mary Ridge, Treasurer
David Green, Clerk
Don Birch, Member
Harley Brundage, Member

Chairman California Energy Commission
President California Public Utility Commission

Group and Individual Comments

GROUPS AND INDIVIDUALS

		Pages
GI1	Citizen, Centerville, Utah	GI-1
GI2	Gloria Ray, Centerville, Utah	GI-2
GI3	Lyndon L. Ricks, Centerville, Utah	GI-3 to GI-4
GI4	William and Virginia Winn, Centerville, Utah	GI-5

FILED
ICE OF THE SECRETARY
SEP 12 PM 2:34
REGULATORY
COMMISSION

September 6, 1988

[Citizen, Centerville, Utah]

Office of the Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, D.C. 20426

Dear Gentlemen:

As a resident of Centerville, Utah and more specifically as a family living on Pages Lane in Centerville, we wish to express our strong displeasure with the proposal to run a natural gas transmission line directly through the main area of our community.

GI1-1 While we all realize the necessity for services and some of the inconveniences they sometimes create, we find it unbelievable that the Commission would even consider putting a line of this magnitude on a major earth quake fault line in a community with homes, schools, churches and commercial areas directly adjacent to the proposed route. My family lives approximately 50 yards from the wasatch fault and on Pages Lane. Having worked for a Natural Gas company in the past, I'm fully aware of the potential liability of living on top of the fault combined with a 30" natural gas line.

Obviously your people look at shear numbers for a potential catastrophe and can from a map determine that little old Centerville is an insignificant sacrifice. When its my family and our neighborhood it isn't insignificant to arbitrarily force an extremely dangerous situation on our lives. Place your family in my home and honestly ask yourself the obvious question of whether you would feel totally comfortable knowing that an earth quake has been forecast by many experts for some time as being inevitable.

We live in a state that is for the most part very unpopulated and it appears to be almost ridiculous to think that the commission could not come up with a route that would not traverse over potentially hazardous areas.

Again we strongly oppose this proposed route and will commit all we can to actively fight the continuance of the pipeline in our community.

Sincerely,

GI1-1 Consideration of the Pages Lane Alternative was requested by the City of Bountiful at the public scoping meeting held in Salt Lake City on April 20, 1988. The staff does not favor the use of this route. However, appropriate measures to protect the pipeline from the possibility of rupture due to seismic events are available and would be tailored to site-specific conditions if a route through Utah is chosen. See General Staff Recommended Mitigation Measures 4, 5, 8, and 11 in Vol. III Supplement, Section 3.1.2.

FILED
FFICE OF THE SECRETA
88 SEP 12 PM 12:00
REGULATORY COMMISSION

Gloria Ray
535 East Pages Ln
Centerville, Ut 84014

September 6, 1988

Office of the Secretary
Federal Energy Reulatory Commission
825 North Capitol Street ,NE
Washington, D C 20426

Gentlemen:

I am writing to inform your office, I greatly object to the possible routing of the Natural Gas Pipeline from Wyoming to California passing by my home on Pages Lane. We have had every possible underground service down this street, 2 water lines, Bountiful & Centerville, 2 Weber Water lines, Bountiful & Centerville, the main trunk line for telephone and the Mountain Fuel and the Storm Sewer that services Bountiful & Centerville. I am sure there could be an alternate Route used, possibly out of the populated area of any town.

Please consider using a route in a less populated area. Your consideration is greatly appreciated.

Very truly yours,

Gloria Ray

Gloria Ray
535 East Pages Ln
Centerville, Utah 84014

[Gloria Ray, Centerville, Utah]

GI2-1 Thank you for your comment.

[Lyndon L. Ricks, Centerville, Utah]

614 East 700 North
Centerville, Utah 84014

FILED
OFFICE OF THE SECRETARY
88 SEP -2 AM 11:09
REGULATORY COMMISSION

August 30, 1988

Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, DC 20426

To Whom It May Concern:

GI3-1 It is my understanding that you are considering three alternative paths for placement of a 30-inch gas pipeline through South Davis County instead of the original preferred route through forest land. Due to an expression of concern by Uinta National Forest Service officials, the three alternative routes were developed and are being considered. I disagree with your claim that it is the public's responsibility to convince Uinta National Forest Service officials to change their minds if the preferred route is to be considered. Both the Forest Service officials and your office are employed by the people of this country to represent the people in managing certain resources. This management should be done as representatives of the people, not at the expense of those people, and the route selection should reflect this approach.

GI3-2 I am not suggesting that the Forest Service officials do not have legitimate concerns about the placement of this pipeline through National Forest Service land. However, such concern is only increased by the placement of such pipeline through heavily populated areas. In the event of an earthquake, or other disaster, which ruptured the pipeline, unfortunate consequences would likely occur to National Forest Service land. However, if such pipeline were placed in a residential area, the consequences would not only be unfortunate but could likely be tragic.

GI3-3 If the pipeline is not merely desirable but is also deemed necessary (which determination should be re-evaluated), I have been unable to discover any reason

GI3-1 During the public scoping meeting held in Salt Lake City on April 20, 1988, the City of Bountiful requested that three local alternatives to the staff's recommended Wasatch Variation be considered in the Draft Supplement. Staff agreed to this request. The staff's comments near the end of the August 22, 1988, public meeting in Salt Lake City were not meant to thrust inappropriate responsibilities on the public, but another attempt to ignite a dialogue between the public in Davis County and the Uinta National Forest. Such a dialogue would benefit all involved parties.

GI3-2 As was presented in the FEIR/S, the Forest Service's concerns go well beyond the potential impacts associated with an earthquake induced pipeline rupture. This is precisely the reason why staff sought to initiate direct public dialogue with the Forest Service.

GI3-3 The factors which forced development of the Wasatch Variation were clearly presented in the Draft Supplement, Sections 1.2, 1.3.5, and 2.3.1. Additional information concerning the Uinta National Forest is available in the FEIR/S, II/3.1 and 4.1.

GI3-3 (cont.) for its placement through populated areas as opposed to unpopulated, publicly-owned land. Although I am not personally familiar with those persons who are developing such proposals, and therefore cannot assume to know of their motives, it appears possible that such alternative routes were developed because of your perception that you were less likely to receive negative comments from the public (due to a lack of awareness, apathy, or both) than from another governmental agency. If such, in fact, is the case, it appears that you have lost sight of your function as representatives of the people.

Very truly yours,

Lyndon Ricks

Lyndon L. Ricks

LLR:mas

cc: Senator Jake Garn
Senator Orrin Hatch
Representative Jim Hansen
The Deseret News
Davis County Clipper

[William and Virginia Winn, Centerville, Utah]

FILED
FFICE OF THE SECRETA
88 SEP 12 AM 11:59
FEDERAL ENERGY
REGULATORY
COMMISSION

William L. Winn
495 East Pages Lane
Centerville, Utah 84014

September 8, 1988

Office of the Secretary
Federal Energy Regulatory Commission
825 North Capitol Street., NE
Washington D.C. 20426

Gentlemen:

It is my understanding that Pages Lane is one of the routes being considered for the Wyoming to California pipeline. I wish to express my opposition to this , or to routing this through any densely populated area. I feel sure alternative routes could be used that would be less of a hazard to any town.

Your consideration along these lines would be appreciated.
Thank you,

Very truly yours,

William L. Winn
William L. Winn
Virginia S Winn

GI4-1 Thank you for your comment.

Mojave Pipeline Co. Comments

Mojave Pipeline Co. Comments

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Mojave Pipeline Company, *et al.*	)	Docket No. CP85-437-000, *et al.*
Wyoming-California Pipeline Company	)	Docket Nos. CP87-479-000 and CP87-480-000

COMMENTS OF MOJAVE PIPELINE COMPANY ON THE DRAFT SUPPLEMENT TO THE FINAL EIS

Mojave Pipeline Company (Mojave) hereby submits its comments on the Draft Supplement to the *Mojave/Kern River/El Dorado Final Environmental Impact Report/Statement (DSEIS)*. These include comments on the *Draft WyCal Supplemental (Volume VI)*; the *Volume III Supplement*; and the supplemental maps for Volume IV of the FEIS. Mojave intends for these comments to assist the Federal Energy Regulatory Commission (FERC) and the California State Lands Commission (CSLC) in their compliance with NEPA and CEQA. Specifically, Mojave will address errors, inconsistencies, and omissions in the draft which detract from its ability to provide a full environmental review of the WyCal project and a valid comparison with other alternative projects. Mojave's comments include a summary of major conclusions, comments on the project description, environmental analysis, and mitigation measures, and comments on the summary volume, including corrections to summary tables.

Before proceeding to its specific comments, Mojave wishes to bring one matter to Staff's attention. Mojave is a mutually exclusive alternative to WyCal and any valid environmental consideration of WyCal must be premised upon this fact. WyCal cannot be issued a certificate without first being compared to Mojave. Mojave filed its application to serve the EOR market on April 15, 1985. More than two years later, after actively participating in the Mojave proceeding through its affiliate CIG, WyCal filed its application, expressing its intent to serve the same market and even adopting the whole of Mojave's route. All parties in the Mojave proceeding agree that the EOR market will support only one interstate pipeline. See Mojave's Initial Brief on Environmental Issues at 85-86. Mojave's proposal, thus, is a pre-existing, mutually exclusive alternative to WyCal.

On the other hand, Mojave need not necessarily be compared to WyCal. WyCal's application was exceedingly untimely, and should be dismissed under Ashbacker Radio Corp. v. F.C.C., 326 U.S. 327 (1945), eliminating any need for comparison. The Commission already had held of WyCal, that "it would be unfair to the other parties who have devoted substantial time and resources to allow this recently filed application to disrupt the ongoing proceeding." 41 FERC ¶61,040 at 61,119 (1987). The environmental comparison of Mojave with other alternatives need not include consideration of WyCal's untimely proposal.

I. SUMMARY OF MAJOR CONCLUSIONS

MO-1 Mojave agrees with the conclusion of the DSEIS that the Mojave system is the environmentally preferred alternative. This conclusion is amply supported by the data and analyses presented in the FEIS and DSEIS. It would be useful, however, if the sections where these conclusions are presented (page S-25 of Volume VI and page 3-3 of Volume III) indicated (as is clear from the data and analyses presented in the EIS) that all four of the Mojave systems are environmentally superior to WyCal and Kern River.

Mojave has identified some errors, omissions and inconsistencies in the analysis of the new WyCal routes in Wyoming and Nevada, and the Bountiful Alternatives, in Volume VI. These are discussed in Section III of these comments. To check the information provided in the DSEIS, Mojave conducted an intensive program of environmental investigation, particularly of the Bountiful

MO-1 The conclusion is clear. It does not need repeating.

alternatives. This has included field studies, collection of information from various agencies and public sources, and analysis of air photos and maps. Where Mojave has identified missing data or incorrect or erroneous information, Mojave has provided it.

Mojave also has checked the comparison data provided in Supplemental Volume III, and has identified some errors or inconsistencies. While none of these change the overall conclusion (i.e., that Mojave is environmentally superior), they do affect the relative magnitude of the difference between Mojave and competing systems (making it greater). Mojave has provided detailed support for each recommended change.

It is clear from the environmental analysis presented in this DSEIS that none of the Bountiful route alternatives is environmentally acceptable. However, it is equally clear that the original Wasatch Variation in this area is also unacceptable, as stated in Mojave's previous comments on the DEIS and testimony in the Mojave proceeding, and as indicated in the depth of opposition to this route by municipalities in this area. The DSEIS proceeds as if it must choose one of the routes as preferable, and selects the Wasatch Variation as the best of a group of poor routes. This is unwarranted. First, the alternatives evaluated appear to have been developed somewhat hastily and appear to have involved no input from WyCal. Second, there is no reason to select a poor route through the Bountiful area when the FEIS presents a clearly environmentally superior route elsewhere - the Mojave Project.

MO-2 Staff requested comments on two concepts on page 1-104 of Supplemental Volume III. The first is WyCal's idea that since the FEIR/S concluded that both Kern River and Mojave were environmentally acceptable, then WyCal, which incorporates the whole of Mojave and major portions of Kern River, must also be acceptable. This question is moot, because the FEIR/S and DSEIS present ample evidence that neither WyCal nor Kern River has developed an environmentally acceptable route through northern Utah. Moreover, WyCal's negligible involvement and efforts in the environmental area cast substantial doubt on WyCal's ability to fulfill its environmental

MO-3 responsibilities. The second concept in question is that WyCal's increased environmental impacts may somehow be justified by an increased flexibility of service. There has been no showing that WyCal would provide increased flexibility. Mojave, Transwestern and El Paso have shown in Phase I of the Mojave proceeding that Mojave can pro-

MO-2 Thank you for your perspective.

MO-3 Comment reflected in the Vol. III Supplement, Section 1.6.

vide necessary service from virtually any producing area in the continent.

MO-4 On page 1-103 of Supplemental Volume III, FERC staff appears to be trying to present a justification for granting WyCal a certificate prior to a ruling on the Mojave and Kern River applications. The rationale provided to distinguish between WyCal and the other applications is spurious. First, concerning commitment to mitigation, WyCal has stated that it will abide by all of the mitigations in the FEIS, except for the two dealing with use of the Wasatch and North Las Vegas Variations. Thus, WyCal's commitment does not extend to two of the most important mitigations. Their commitment to the other mitigations is no greater than that of Mojave, which has made repeated statements that it is committed to full mitigation of impacts. Second, the statement that the U.S. Fish and Wildlife Service (USFWS) Jeopardy Biological Opinion should not apply to WyCal is totally unwarranted. The Biological comments concerning the environmental analysis and project descriptions of Mojave and Kern River provided on page 8 of the Biological Opinion applies equally to WyCal.

If commitment to mitigation measures alone is all that is needed to reverse this jeopardy opinion, then

MO-4 There is an important difference between Mojave's commitment versus WyCal's. Mojave has agreed to the conditions if attached to a Commission certificate whereas WyCal has committed to the measures as part of its proposal before the Commission. The two conditions WyCal has not agreed to do not involve the USFWS Jeopardy Opinion. It should be noted that when the USFWS issued its "jeopardy" opinion, part of their rationale was that they did not know what mitigation measures each applicant was committed to and/or which measures the Commission would attach as conditions of its certificate. Applicants' and/or staff recommended mitigation measures were therefore not considered by the USFWS when it issued its "jeopardy" opinion (see page 7 of the USFWS Biological Opinion, FEIR/S, II/Appendix G). This is precisely why this distinction between each applicant's commitment was considered by staff to be important in the WyCal case. Staff is not trying to justify anyone's project, that burden falls to each applicant.

In a letter dated February 9, 1988, from the USFWS to the FERC, the USFWS stated that should the WyCal pipeline be licensed, it would have to comply with all provisions of the USFWS Opinion in order to be in compliance with the Endangered Species Act. WyCal adopted the conservation measures in the Opinion by adopting staff's mitigation measures without the need of a conditioned certificate. Therefore, in staff's opinion, WyCal does not have a project in "jeopardy".

MO-4 (cont.) the opinion does not apply to Mojave, which has repeatedly demonstrated its commitment to all required mitigations. If such a position concerning commitment to mitigation is acceptable to U.S. Fish and Wildlife Service to reverse the jeopardy opinion, this should be stated in the FSEIS.

Finally, as the only mitigation measure specific to WyCal, the DSEIS recommends completion of the WyCal project, if approved, in a sequential manner as described on page 3-5 of Supplemental Volume III. The recommendation that the portion of the project equivalent of the Mojave Pipeline Project be completed first is a further confirmation of the soundness and low environmental impact of the Mojave Project.

II. PROJECT DESCRIPTION

MO-5 Page 2-1, Section 2.2.1 - Facilities. There are a few inconsistencies in the description of facilities. During the certification hearings, WyCal indicated in response to a data request that it did not intend to locate its Topock Compressor Station on El Paso Natural Gas Company land, as Mojave will. An alternative location for WyCal's compressor station therefore must be evaluated. This is particularly important since adjacent locations would be on U.S. Fish and Wildlife Service land

MO-5 The staff is unaware of any change in the location of WyCal's proposed Topock Compressor Station.

MO-6 in the Havasu National Wildlife Refuge. Secondly, WyCal has made no commitment as to its method of crossing the Colorado River, in contrast to Mojave which plans to use an existing bridge. The environmental consequences of trenching across the Colorado River would be substantially greater and should be addressed in the DSEIS. These include impacts to freshwater biology (including fish species), surface water, wetlands, and the Havasu National Wildlife Refuge.

Page 2-7, last paragraph (WyCal facilities).

MO-7 The statement that no new access roads are planned is inconsistent with information provided in the FEIS that large portions of Kern River's routes through the Utah Mountains are substantially unroaded, and that new access roads and major upgrading of existing recreational access would be needed. Since WyCal would follow the same routes through these areas, these same conditions would apply. A statement should be added "New access roads or upgrading of existing access is likely to be required on portions of the route in the Utah Mountains; however, the locations of these roads have not yet been determined."

Page 2-16, Section 2.3.1.1 - Bountiful Boulevard Alternative. According to Forest Service maps Mojave has obtained, the Ward Canyon Utility Corridor does

MO-6 See response to WY-33.

MO-7 See response to KR-23.

MO-8 not end at the eastern edge of Bountiful, but swings to the north. Thus, the second sentence is not worded accurately. The description of this route should indicate that there is a gap of about 0.3 mile between the Mountain Fuel right-of-way and Bountiful Boulevard at the foot of the hill, where this alternative will not be following any existing facility.

This can be readily seen by comparing the divergence between the Bountiful Boulevard Alternative and the Pages Lane Alternative at the 5800 ft. contour interval, on Maps 4 and 6 of the WyCal Volume IV Supplement. This section of route would proceed straight downhill, with an average slope in excess of 30%, in a previously undisturbed area.

The facilities present in Bountiful Boulevard should be described more completely. It is possible that there are so many existing utilities under this street that addition of a major natural gas pipeline may not be feasible, without severe disruption and relocation of existing utilities. This possibility should be addressed. According to information Mojave has collected and which is presented in Section IIIB of this letter, there are seven existing utility lines under Bountiful Boulevard.

MO-8 Comment partially accepted, see change to Vol. VI, Section 2.3.1.1. While no utilities were apparent during field inspection of this 0.3-mile interval, it is erroneous to characterize the interval as "previously undisturbed". The possibility of disruption to existing utilities was addressed in Sections 1.5.2.1 and 1.5.2.1.1 of the Vol. III Supplement. These discussions, as well as one in Vol. VI, Section 4.3.1.9, have been modified.

MO-8 (cont.) Mojave's analysis of the cost of the 6.7 mile Bountiful Boulevard Alternative is that it would cost approximately $0.44 million more than the 6.8 mile equivalent section of the Wasatch Variation.

MO-9 Page 2-16, Section 2.3.1.2 - Pages Lane Alternative. As with the Bountiful Boulevard Alternative, the Pages Lane Alternative would use a city street where there are a large number of existing utilities. The feasibility of use of this street should be addressed, and the potential requirements for movement or disruption of existing utilities should also be addressed.

The Porter Lane Alternative should be presented in more detail. In particular the analysis should indicate why this was originally proposed as a route alternative, the length of this alternative compared to Pages Lane, and other factors that distinguish it from the Pages Lane Alternative. In Section III of this letter, Mojave has included information that should be added relevant to the Porter Lane Alternative, where it is appropriate.

Mojave's estimate of the cost of the 13.7 mile Pages Lane Alternative is that it would cost approximately $0.81 million more than the 13 mile equivalent section of the Wasatch Variation.

MO-9 The possibility of disruption to existing utilities was addressed in Sections 1.5.2.2 and 1.5.2.2.1 of the Vol. III Supplement. These discussions, as well as the one in Vol. VI, Section 4.3.1.9, have been modified. While the Porter Lane Alternative has not been accorded separate status for analytical purposes, additional information has been included in Vol. VI, Sections 2.3.1.2, 3.2.1.9.2, and 4.3.1.9.

MO-10 Page 2-17, Section 2.3.1.3 - Bountiful Peak Alternative. On the fifth-seventh lines of the first paragraph, the narrative indicates that the Bountiful Peak Alternative follows a jeep trail from its start to Bountiful Peak. This is incomplete, since the jeep trail shown on the topographic map is followed for only about one-third of this distance; the remainder follows Skyline Drive, a scenic road. The jeep trail mentioned is in an area classified as semi-primitive non-motorized by the U.S. Forest Service and, thus, is currently closed to motorized vehicle use. Therefore, the discussion should refer to a "former jeep trail".

Mojave's estimate of the cost of the 19.9 mile Bountiful Peak Alternative is that it would cost approximately $2.2 more than the 14.1 mile equivalent section of the Wasatch Variation.

III. ENVIRONMENTAL ANALYSES

A. New WyCal Wyoming Route

MO-11 Page 3-3, Table 3.2-1 (Drainage Channels). A review of topographic maps of the WyCal route indicates that a number of the streams classified as intermittent in this table are in fact shown as perennial on the USGS topographic maps of the area. In some cases, these streams become intermittent lower down, but they are

MO-10 Comment partially accepted, see change in text of Vol. VI, Section 2.3.1.3. While the referenced trail may be officially listed as closed to motorized vehicle use, on-site inspection suggests current use.

MO-11 Flow designations assigned various channel crossings along the Wyoming portion of the WyCal route were based on USGS topographic quads and observation from a fixed wing aircraft. USGS designations are not the final word on the flow class of streams. Many maps indicate a given flow class, but when field verified are shown to be in error. Therefore, based on our interpretation of the topographic and hydrologic conditions at the crossing, as well as observation from the air, it is our interpretation that the correct flow classes are indicated in the table. Further, the title of the table emphasizes major drainage channels, and not all drainage channels are listed. For consistency purposes, the same assumptions were used to determine "major drainage channels"

MO-11
(cont.)

clearly indicated as perennial at the portions crossed by the route. The following changes should be made in the stream designations:

- Little Muddy Creek, MP 18.9-19.1. This should be shown as two separate crossings, at MP 18.9 and MP 19.1, based on the route maps provided by WyCal in the certification proceedings.
- Hill Creek, MP 26.9. This should be identified as perennial.
- Ryckman Creek (Trib.), MP 30.7. This should be identified as perennial.
- Ryckman Creek (Trib.), MP 33.8. This should be identified as perennial. The milepost is actually 33.6, based on the WyCal route maps.
- Pleasant Valley Creek (Trib.), MP 47.4. This should be identified as perennial.
- Pleasant Valley Creek (Trib.), MP 47.8. This should be identified as perennial.
- There appears to be an additional perennial crossing of Pleasant Valley Creek (Trib.) at MP 48.5.
- Robinson Hollow, MP 51.8. This should also be identified as perennial.

Mojave believes that some of the designations of side slope and channel bed sensitivity are incorrect, based on interpretation of aerial photographs for each crossing, plus information on the topographic maps. The crossings of Little Muddy Creek at mileposts 18.9, 19.1 and 24.1, should be indicated as having high side slope

MO-11
(cont.)

for this proposal as in the other proposals analyzed. To condense text, the several crossings of Little Muddy Creek from MP 18.9-19.1 were shown on one line of text. Further, this table also lists mileposts along the route at which the pipeline would encroach on the riparian zone or would be in close (i.e., within 200 feet) proximity to a stream which would be the case for Little Muddy Creek between these mileposts.

During pipeline construction, the gradient of steep cutbanks adjacent to Little Muddy Creek would be reduced by grading. Therefore, the presence of steep cutbanks observed on aerial photos would not necessarily dictate a higher sideslope sensitivity. Sideslope sensitivity is a function of larger topographic features than steep cutbanks.

Sensitivity of channels to pipeline construction do not need to be changed. Further, since the channels itemized as having perennial rather than intermittent flow classes by the reviewer actually exhibit intermittent flow class, no sensitivity ratings are necessary or appropriate.

MO-11 (cont.) sensitivity, due to the presence of steep banks immediately adjacent to the creek. The gullied nature of these crossings is not evident on the topographic maps.

Mojave has evaluated side slope and channel bed sensitivity on the additional perennial stream crossings listed above, based on the criteria used in the FEIS, and the methods presented above. Mojave's assessment of these stream crossings is as follows:

- Hill Creek, MP 26.9: Channel bed=L, side slope=M
- Ryckman Creek (Trib.), MP 30.7: Channel bed=M; side slope=L
- Ryckman Creek (Trib.), MP 33.6: Channel bed=M; side slope=H
- Pleasant Valley Creek (Trib.), MP 47.4: Channel bed=H, side slope=M
- Pleasant Valley Creek (Trib.), MP 47.8: Channel bed=M; side slope=M
- Pleasant Valley Creek (Trib.), MP 48.5: Channel bed=M; side slope=M
- Robinson Hollow, MP 51.8: Channel bed=M; side slope=M.

MO-12 Page 3-6, Plant Species of Special Concern. The "milkvetch" species should be identified, or reference made to Appendix page B-1. There are approximately 35 different species of milkvetch in Wyoming, and dozens more in neighboring states.

MO-12 See response to WY-19.

MO-13	Page 3-18, first paragraph (Visual Resources). The description of the environment provided in the second and third sentences of the first paragraph is not accurate and is not consistent with the subsequent paragraphs.	MO-13	Comment accepted, see change in Vol. VI, Section 3.1.12.
MO-14	Page 4-6, Section 4.2.4 (Surface Water). The information in this paragraph should be changed to reflect the increased numbers of perennial streams that are present. There would be seven perennial stream crossings within the Wyoming Basin, of which three would have high sensitivities due to steep side slopes, and the remainder would have low to moderate sensitivities. There would be six crossings in the Middle Rocky Mountain Region (Bear River watershed), of which three would have high sensitivity, and the remainder moderate sensitivity.	MO-14	See response to MO-11.
MO-15	The comment in the last sentence on this page should be clarified. Is it intended to refer only to impacts on the new 54 miles of WyCal route, or to impacts on the entire WyCal route? If it is intended to refer to the entire route, then it is inconsistent with conclusions presented elsewhere in the DSEIS for WyCal, and in the FEIS for Kern River.	MO-15	The text is a only discussion of impacts associated with the new portion of the route.
MO-16	Page 4-15, Section 4.2.4. (continued). The discussion of hydrostatic test water in the first full	MO-16	Comment accepted, see change to Vol. VI, Section 4.2.4.

MO-16 (cont.) paragraph should refer to the information presented on volumes, potential sources, and permit requirements on page 2-11.

MO-17 Page 4-15, Section 4.2.6 (Freshwater Biology). The last sentence in this section is unclear. Does "region" mean the new WyCal route in Wyoming, or the entire Middle Rocky Mountains? If the latter, then it is not consistent with the FEIS.

MO-18 Page 4-17, Table 4.2-7 (Aquatic Biology Impacts). The identification of the crossing of the Strawberry River at milepost "124.5-131.6" suggests that the pipeline would be laid down the riverbed. In fact, this represents several crossings, as indicated for Kern River in the FEIS, and these should be identified as separate crossings.

MO-19 Page 4-17, Table 4.2-7 (continued). The identification of the crossing of the Kern River as having significant biological effects is not consistent with the information presented in the FEIS for similar crossings by Mojave and Kern River.

MO-20 Page 4-18, Table 4.2-8 (Vegetation Types). The numbers of acres of wetland/riparian vegetation presented here for the new WyCal Wyoming route are not consistent with the milepost information presented on page 3-6. It

MO-17 Comment accepted, see change in text of Vol. VI, Section 4.2.6.

MO-18 Comment accepted, see change in Vol. VI, Table 4.2-7.

MO-19 Comment accepted, see change in Vol. VI, Table 4.2-7.

MO-20 The consultants who prepared the vegetation portion of this Draft Supplement were hired to provide an independent assessment of wetlands along the proposed WyCal route, independent of the WyCal company as well as other advocates or opponents. Based on review of topographic maps and an overflight by fixed wing airplane, the only crossings which qualified as wetland are indicated on the maps. Many of the channels that would be crossed by the pipeline are intermittent or ephemeral and do not support vegetation or the necessary conditions to be considered a wetland. Many of the

MO-20
(cont.)

is also highly inconsistent with detailed mile-posting of riparian habitat presented by WyCal witness Haislip in Exhibit WC-3B, Schedule 1, in testimony for the FERC certification proceedings.

The mileposts on page 3-6 indicate that there are about 5 miles of wetland/ riparian vegetation crossed by the WyCal route in the Wyoming Basin. This is equivalent to about 60 acres, for a 100-foot wide right-of-way. The WyCal data on riparian vegetation indicates that it occurs at the following mileposts in the Wyoming Basin:

0.1 -	1.1	(1.0 mile)
4.7 -	4.9	(0.2 mile)
5.5 -	5.7	(0.2 mile)
6.1 -	6.3	(0.2 mile)
8.9 -	9.2	(0.3 mile)
13.2 -	13.3	(0.1 mile)
18.8 -	19.6	(0.8 mile)
23.4 -	23.6	(0.2 mile)
24.1 -	24.3	(0.2 mile)
30.6 -	30.8	(0.2 mile)
33.5 -	33.6	(0.1 mile)

The total linear distance is 3.5 miles, equivalent to 42.4 acres. The 1.4 acres wetland/riparian vegetation presented on page 4-18 for the Wyoming Basin is therefore, far too low.

The mileposts on page 3-6 do not indicate that there is any wetland/riparian vegetation present on the portion of the new route in the Middle Rocky Mountains. However, the WyCal information referenced above indicates

MO-20
(cont.)

major drainages that would be crossed by the pipeline are ephemeral and never-the-less are given names (i.e., the fact that a channel or drainage is given a name does not imply that it is perennial).

MO-20 (cont.) that wetland/riparian vegetation is present in the following areas:

MP 45.4 - 45.5 (0.1 mile)
MP 46.2 - 46.3 (0.1 mile)
MP 47.3 - 49.5 (2.2 mile)
MP 51.6 - 51.7 (0.1 mile)

This represents a total of 2.5 miles or 30.3 acres for a 100 foot-wide right-of-way. The section of 2.2 miles is located in a narrow valley of Pleasant Valley Creek, Picnic Hollow, and a tributary. The route as mapped by WyCal is located 100 feet or less from a perennial stream throughout this area. In addition, the USGS topographic map of the area indicates that there are springs present in the valley bottom throughout much of this area.

The FEIS indicated that there were 72.7 acres of wetland/riparian vegetation present in this area (Vol. II, page 4-34, and Vol. II, page 3-35), located at mileposts 48-49, 88-89, 98-99, 119-121 and 145-146. Since the WyCal route joins the Kern River route at Kern River milepost 45, the 72.7 acres on the Kern River portion of the route should be added to the 30.3 acres on the WyCal portion of the route, to make a total of 103 acres of wetland/riparian vegetation crossed by WyCal in the Middle Rocky Mountains.

MO-20 (cont.)	The total acreage of wetland/riparian vegetation presented on page 4-20 should also be corrected, by adding the 42 acres from the Wyoming Basin, and the additional 30 acres from the Middle Rocky Mountains, to make a total of 254 acres of wetland/riparian vegetation affected by the WyCal project.	
MO-21	Page 4-21, Table 4.2-8 (continued). The total acreage of 12,010.5 at the end of this table represents a pipeline length approximately 16 miles shorter than the length of the WyCal Pipeline indicated on pages 2-1 and 2-3. The total acreage presented also does not include the compressor station acreages on page 4-18. The acreages presented in this table are also not consistent with those presented on pages 4-35 and 4-36. However, these tables also present a pipeline length shorter than indicated in the project description.	MO-21 This represents an error of 2 percent. For a proposed route which exceeds 1,000 miles in length, this margin is acceptable. Table stands.
MO-22	Page 4-40, MP NL 1.0-5.0 and MP NL 50-54.4 (Visual Resources). The identification of vegetation recovery ("rejuvenation") as being short-term and "over a two to three year period" is not consistent with the identification of much of this area as having poor reclamation potential as indicated on pages 4-14 and A-1.	MO-22 Comment accepted, see change in text of Vol. VI, Section 4.2.12.
MO-23	Page 4-40, Section 4.2.12 (Visual Resources). Based on Mojave's evaluation of visual impacts the fol-	MO-23 The analysis presented in Section 4.2.12 stands. Thank you for your comment.

MO-23 (cont.) lowing paragraph should be added. "MP 52.6-53.3 VRM/VQO BLM Class III(A). This segment of the route is highly visible to viewers traveling on Interstate 80. View distance from the highway to the route is 0.5-1.5 miles. No previous modifications are evident. The route descends straight down slopes ranging from 15-25% gradient. Vegetation recovery rate is fair to poor for short term revegetation for these slopes of mixed shrub and sage. This impact is considered significant. Although the visual impact criteria used in the EIS would normally rate impacts to a Class IIIA area as moderate, the short view distance, high visibility from steep terrain and sensitivity of viewers traveling the Interstate through this above average landscape type that offers "scenic views of the area" (DSEIS, page 3-18) are factors causing significant visual impacts to be rated high."

MO-24 Page 4-41, Table 4.2-16 (Summary of Visual Impacts - WyCal Pipeline Proposal). The following line should be added to this table:

Milepost	Jurisdiction	Resource	VRM/VQO	Critical Viewpoint	Visual Impact
52.6-53.3	BLM	Duncomb Hollow	IIIA	Interstate 80	High 0.7

For milepost 50.5-52.6 and 53.3-54.4, the critical viewpoint should be Interstate 80, and the affected

MO-24 See previous response.

resource should not be "Bear River Valley," which is not located here.

B. Bountiful Alternatives.

MO-25 Page 3-19, Section 3.2.1.2.1 (Bountiful Boulevard Alternative (Geology)). The statement in the fourth through sixth lines that potential slope instability problems are not present along this variation is incorrect. Slope-Failure Inventory Maps prepared for Davis County by the Davis County Geologist indicate a number of areas of large and small slope failures crossed by this route. In the section from mileposts 38.5 to 39.6, where the Bountiful Boulevard route leaves the Wasatch Variation and follows the Ward Canyon utility corridor, two shallow slides totalling 0.3 mile of route would be crossed. From mileposts 39.6 to 46.3, where the Bountiful Boulevard route rejoins the Wasatch Variation, 13 areas of slope instability would be crossed, totalling 2.35 miles. These include mainly shallow slope failures, but also about 0.5 mile of deep slope failures, including one mapped as active, and a debris flow at the mouth of Holbrook Canyon. Two of these areas are those indicated as occurring in the SE 1/4, Section 21, T21N (sic, should be T2N, R1E), in the last sentence of the first paragraph of this section of the DSEIS.

MO-25 The text indicates that the variation is "located in an area that has had significant slope stability problems in the past" (emphases supplied). This does not imply that problems are not present. The text goes on to note such problems.

MO-25 (cont.) This variation would cross four splays of the Wasatch Fault in five crossings, rather than only one crossing, according to an analysis by Woodward-Clyde Consultants geologists. Because of its location at the top of the Bonneville Terraces generally paralleling the Wasatch Fault, the Bountiful Boulevard route would cross splays of the Wasatch Fault at BB 42.3, 42.9, 43.8, 45.4, and 46.0. Identification of these fault crossing locations was based on aerial and ground surveys of the area, air photo interpretation, and existing geological literature.

Additional crossings of the Wasatch Fault and areas of slope instability would be located in the portion of the Wasatch Variation from the end of the Bountiful Boulevard route to roughly the crossing of I-15.

MO-26 Page 3-19, Section 3.2.1.2.2 (Pages Lane Alternative (Geology)). The following information should be added. Slope-Failure Inventory Maps prepared by the Davis County Geologist indicate that the Pages Lane route would cross three areas of slope instability. Two of these occur in the SE 1/4 of Section 21, T2N, R1E, and another at approximately PL 39.7-39.9. In addition, there are debris flow deposits at the mouth of Ward Canyon at about MP 42.3. The total area of slope instabil-

MO-26 See previous response.

MO-26 (cont.) ity on this route is about 0.7 mile. Areas of slope instability are present along the existing Mountain Fuels pipeline.

Splays of the Wasatch Fault would be crossed twice, according to an analysis, by Woodward-Clyde Consultants' geologists, at PL 42.4 and 43.8.

The Porter Lane alternative would have the same amount of geologic hazards as the Pages Lane alternative. The only difference is that the second fault crossing would be in a different location.

MO-27 Page 3-21, Section 3.2.1.2.3 (Bountiful Peak Alternative (Geology)). A sentence should be added to the second paragraph indicating that one small area (about 0.5 mile) of shallow landslide mapped on the Davis County Slope-Failure Inventory Maps would be located at about BP 42.

In the third paragraph, a sentence should be added that the Bountiful Peak alternative route would cross two mapped areas of slope instability, totalling 1.8 miles, in the section from Bountiful Peak to the Salt Lake Valley.

The last sentence of the second paragraph concerning the crossing of the Wasatch Fault should be moved to the end of the third paragraph or to a separate para-

MO-27 See response MO-25.

MO-27 (cont.) graph, since it is confusing as currently placed. The crossing of the Wasatch Fault on this variation would be at about BP 47.3, according to the analysis by Woodward-Clyde Consultants.

MO-28 Page 3-22, Table 3.2-2 (Major Drainage Channels). USGS topographic maps of the study area indicate that the first two drainages listed under the Bountiful Peak alternative should be designated as perennial, rather than intermittent. Mojave's evaluation of these drainages indicates that both would have low side slope and channel bed sensitivity.

MO-29 Mill Creek is intermittent at the point at which it is crossed by this route alternative, according to the USGS topographic maps of the area. None of the mileposts listed in this table correspond to the maps (Volume IV) presented for this route alternative. Based on those maps, the mileposts should be: 43.0, 43.3, 43.8, 44.8, 45.4 and 46.0 for the Bountiful Boulevard alternative; 42.3, 42.7, 43.2, 47.1, 50.8, and 52.0 for the Pages Lane alternative; and 48.4, 49.75, 51.9, 55.6, and 56.8 for the Bountiful Peak alternative.

MO-30 Page 3-23, Section 3.2.1.4.1 (Bountiful Boulevard Alternative (Surface Water)). A sentence should be added at the end of this paragraph that the Bountiful

MO-28 Field reconnaissance of the area did not support designation of these features as perennial.

MO-29 The Bountiful Peak Alternative does not cross Mill Creek. The maps presented with Vol. VI are generally accurate.

MO-30 Comment partially accepted, see change in text of Vol. VI, Section 3.2.1.4.1. Because the Bountiful Boulevard Alternative would be placed within the existing roadbed at Mill Creek, no impact to this watershed would occur.

MO-30 (cont.) Boulevard alternative route would cross about 3.1 miles of the Holbrook Canyon and Mill Creek municipal watersheds.

MO-31 Page 3-23, Section 3.2.1.4.2 (Pages Lane Alternative (Surface Water)). A sentence should be added at the end of this paragraph indicating that both the Pages Lane and Porter Lane alternatives would cross about 1.75 miles of the Holbrook Canyon municipal watershed.

MO-32 Page 3-23, Section 3.2.1.5 (Ground Water). Mileposts for areas of shallow ground water tables should be provided for each of these variations.

MO-33 Page 3-24, Table 3.2-4 (Vegetation Types). The listing of vegetation types on the Bountiful Boulevard alternative should indicate that urban areas are crossed from BB 43.8-45.5. The locations of wetland/riparian vegetation shown in this table are not consistent with the route maps, or with the acreage of wetlands shown on Page 4-47.

For the Pages Lane Alternative, the length of pipeline in wetland/riparian vegetation (1 mile) is not consistent with the 36.4 acres of impacts to wetland/riparian vegetation indicated on page 4-48, and appears to be understated. The length of urban land crossed is also not consistent with the acreage presented on page 4-

MO-31 Comment accepted, see change in Vol. VI, Section 3.2.1.4.2.

MO-32 Comment partially accepted, see change in Vol. VI, Section 3.2.1.5. To minimize the amount of repetitive text, it was desirable to reference applicable information presented in the FEIR/S rather than reiterate the same information. Further, since groundwater along these variations occurs in two general configurations, not enough diversity exists to present a table showing groundwater conditions and mileposts.

MO-33 Comment partially accepted, see changes in Vol. VI, Table 3.2.4. Map 4 and 5 indicate that residential areas exist from BB 42.3-46.3. Although this segment of the route is residential, much of the native vegetation has been incorporated into the landscaping; therefore, the area retains a similar character to the mountain brush type.

It should be noted that Table 3.2-4 and similar tables in the FEIR/S only serve to identify and generally locate the vegetation communities along the various routes. Table 3.2-4, however, has been adjusted under the Bountiful Boulevard Alternative to more accurately portray the location of the three wetland/riparian areas. Apparently, final milepost adjustments were made after the technical information was developed and submitted to the Draft Supplement which cause the inconsistency between the table and route maps.

For the Pages Lane and Bountiful Peak Alternatives, Table 3.2-4 in the Draft Supplement inaccurately states that there is agricultural land was added to the wetland/riparian category. The new table corrects this inaccuracy and makes the acres consistent with those provided on page 4-48.

In regard to the Porter Lane Alternative, Section 2.3.1.2 sets the assumption that no separate analysis is required for this alternative since it falls within the analysis corridor for Pages Lane Alternative.

MO-33 (cont.) 48, and should be indicated as mileposts PL 44-46. The length of agricultural land crossed is also not consistent with the acreage figure provided.

For the Bountiful Peak Alternative, the length of route crossing wetland/riparian vegetation (1 mile) is inconsistent with the 36.3 acres described as affected on page 4-48, and appears to be understated. The length of agricultural land traversed is also inconsistent.

Information should be added indicating that the Porter Lane alternative would cross approximately .5 mile more natural vegetation (mountain brush or grassland) and .5 mile more agricultural land than the Pages Lane alternative.

MO-34 Page 3-27, last paragraph (Wildlife). The distance of the pipeline right-of-way from the bald eagle winter concentration areas should be provided.

MO-35 Page 3-28, Section 3.2.1.8.1 (Traffic). The last sentence of the first paragraph indicates that residential streets were not included in the list of crossings. Leaving out these results is underestimating potential impacts. There is no sound reason for not including all streets that would be crossed and affected during construction. Mojave has analyzed street crossings on each of the Bountiful alternatives, and list them

MO-34 The exact locations of the concentration areas were not provided in order to protect the species.

MO-35 Thank you for the additional information.

MO-35 (cont.)

below. Some of these are already listed in Table 3.2-5; however, they are listed again for completeness.

Bountiful Peak Alternative

Road Crossing	Milepost
Interstate 15	BP 47.85
State Rt. 106/Main St	BP 47.40
Interstate 15 Frontage	BP 47.83
3600 S. St (Porter Lane)	BP 50.7
1800 N. St (Pages Lane)	BP 51.2
3200 W. St	BP 56.8
1100 W. St	BP 50.92
500 S. St	BP 52.9
Skyline Drive Rd	BP 40.85
Paved Rd	BP 48.25
Paved Rd	BP 49.4
Paved Rd	BP 54.95
Paved Rd	BP 56.45
Unpaved section of 1800W	BP 52.92
Unpaved section of 400 N. St	BP 52.15
Dirt Rd	BP 47.1
Dirt Rd	BP 54.0
Dirt Rd	BP 56.4
Railroads (D&RGW)	BP 47.9
UP	BP 49.9

Bountiful Boulevard Alternative Road Crossing

Road Crossing	Milepost
Bountiful Boulevard/Dr (parallels)	BB 42.4 - 45.4
1100 S. St	BB 43.2
Paved Rd	BB 43.4
Mueller Park Rd	BB 43.85
Cave Hollow Rd	BB 43.9
Maple Hills Rd	BB 44.2
Sunset Hollow Rd	BB 45.0
Canyon Creek Rd	BB 45.35
Dirt Rd (Hooper Canyon)	BB 46.1
Interstate 15	PL 45.2
Interstate Frontage Rd	PL 45.17
State Rt. 106/Main St	PL 44.55
1100 W. St	PL 46.25
800 W. St	PL 45.7
600 W. St	PL 45.4

MO-35 (cont.)

Pages Lane (parallels)	PL 43.0-46.9
Paved Rd	PL 43.9
Paved Rd	PL 43.7
Paved Rd	PL 43.5
3200 W. St	PL 52.0
1800 W. St	PL 48.1
500 S. St	PL 48.1
400 N. St	PL 47.3
1500 N. St	PL 46.75
Paved Rd	PL 51.6
Paved Rd	PL 50.1
Paved Rd	PL 46.5
Dirt Rd	PL 51.5
Railroads (D&RGW)	PL 45.65

Porter Lane Alternative

Road Crossing	Milepost
UP	PL 45.2
Interstate 15	PTL 45.5
Interstate 15 Frontage Rd	PTL 45.4
600 E. St	PTL 44.5
Main St	PTL 44.85
600 W. St	PTL 46.1
200 W. St	PTL 45.2
3600 S. St	PTL 44.0-46.35
Paved Rd	PTL 44.0
Paved Rd	PTL 44.35
600 W.	PTL 45.8
Paved Rd	PTL 46.1
Porter Lane (parallels)	PTL 44.3-46.35
Railroads (D&RGW)	PL 45.2
UP	PL 45.8

MO-36 Page 3-28, Section 3.2.1.8.1, second paragraph (Traffic). The traffic analysis should indicate that portions of each of the routes lack any existing access roads. On the Bountiful Peak alternative, approximately 3 miles of steep terrain between BP 44-47 have no existing access, and an additional 2.3 miles from BP 38.5-40.8 are accessible only by an old jeep trail (which is in an

MO-36 Thank you for the additional information.

MO-36 (cont.) area presently closed to vehicle use). On the Bountiful Boulevard, Pages Lane, and Porter Lane alternatives, there is no existing road access from the crest of the Wasatch Divide to the foot of the ridge, a distance of about 3.8 miles.

The existing Mountain Fuels right-of-way (Ward Canyon Utility Corridor) has a high level of illegal ORV use, despite efforts to control ORVs. This information should be presented in the Traffic Section.

MO-37 Page 3-30, first three paragraphs (Traffic). The number of miles (and mileposts) of areas classified as roadless under the Forest Service ROS classification should be presented.

MO-38 Page 3-30, last paragraph (Recreational Resources - Bountiful Boulevard). The numbers of miles in each of the Forest Service ROS classifications traversed by this alternative should be presented.

MO-39 Page 3-30, first incomplete paragraph (Recreational Resources - Bountiful Boulevard). The statement in the second and third lines that this variation would not be near any developed recreational facilities is incorrect. It would be immediately adjacent to a golf course from mileposts BB 44.3-45.0.

MO-37 See Section 3.2.1.8.3 for this information.

MO-38 The Bountiful Boulevard Alternative would cross a Semiprimitive Nonmotorized area for about one mile. See change in text of Vol. VI, Section 3.2.1.8.3.

MO-39 Comments accepted, see change in text of Vol. VI, Section 3.2.1.8.3.

MO-39 (cont.) Page 3-31, Pages Lane Alternative (Recreation). A sentence should be added indicating that the Pages Lane alternative would be located adjacent to a city park at milepost PL 45.2, and adjacent to a golf course at milepost PL 46.7-46.8. The Porter Lane alternative would cross one city park, and be adjacent to the same golf course as on the Pages Lane alternative.

MO-40 Page 3-31, Bountiful Peak Alternative. The last paragraph in this section is incorrect. The Bountiful Peak alternative would be located adjacent to a golf course at mileposts BP 51.5-51.6.

Page 3-32, first full paragraph after table (Land Use). The statement that the Bountiful Boulevard and Pages Lane alternatives follow the Mountain Fuels right-of-way to the junction with the local street system is not correct. There is a section of about 0.3 mile of new route that would be required between the existing right-of-way and the Bountiful street system, according to the DSEIS maps. This section of route would drop about 600 feet vertically, straight downhill, for the 0.3 mile of new route.

MO-41 Page 3-32, Section 3.2.1.9.1. (Bountiful Boulevard (Land Use)). This paragraph should indicate that 141 houses, a fire station, and a planned school would be

MO-40 Comment accepted, see change in text of Vol. VI, Section 3.2.1.9.

MO-41 Comments accepted, see change in text of Vol. VI, Section 3.2.1.9.1.

MO-41 located within 100 feet of the Bountiful Boulevard route. These numbers are based on review of aerial photographs, and field inspection, by Woodward-Clyde Consultants in August, 1988. Additional houses and other structures would be located on the adjacent portion of the Wasatch Variation.

The DSEIS should discuss existing utilities present in Bountiful Boulevard that could be potentially affected by construction, or which might limit the feasibility of this route. It should also indicate that numbers of utilities that would be crossed in the congested portion of the route. This information is provided below.

Seven utility lines are present under Bountiful Boulevard between mileposts BB 43.8-45.4. These are a 12" water line, and 8" water line, a sanitary sewer, a storm sewer, a natural gas line, an electrical line, and a distribution telephone line. There would be 13 crossings of existing utilities at mileposts 43.8, 43.9, 44.2, 44.4, 45.0, 45.4 and 46.1, including 18" to 42" storm sewers and 6-12" water lines.

Page 3-34, Section 3.2.1.9.2 (Pages Lane Alternative (Land Use). In the first paragraph, a sentence should be added that the Pages Lane Alternative would

MO-41 (cont.)

have 125 houses, 11 commercial buildings, and one school located within 100 feet of the centerline. A park and a golf course would also be located adjacent to portions of the right-of-way.

In the second paragraph, a sentence should be added that the Porter Lane alternative would have 107 residences, five commercial buildings and 1 industrial establishment located within 100 feet of the centerline. A portion of one city park would be crossed, and a cemetery would be located adjacent to the right-of-way.

The DSEIS should indicate that both Pages Lane and Porter Lane currently have a number of utilities which could be affected by construction or which could influence the selection of these routes. Eight facilities are present under Pages Lane from mileposts PL 43.7-45.3, including a 10" culinary water line, a 4" low pressure gas line, a 36" Bountiful City water line (PL 43.7-44.5), an 8" Weber irrigation water line (PL 43.7-44.5), a 16" sanitation sewer, a telephone line, and an 8" Duel Creek irrigation line. The Pages Lane alternative would also cross six lines at Main Street, milepost PL 44.5, including a fiber optic cable, LP gas line, 36" storm sewer, telephone line, culinary water line, and an irrigation line.

MO-41 (cont.) Porter Lane also has seven utility lines under the roadway from milepost 44.2-45.6. Three of these run the full length, including a 30" high pressure natural gas line, a 10" culinary water line, and a 8" irrigation water line. From milepost 44.2-44.8, a 36" storm sewer, a 54" canyon storm sewer, and 10" sanitation sewer, and a 4" low pressure gas line would be present. From milepost 44.8-45.6 there is a 4" culinary water line, a 2" low pressure gas line, a 16" sanitation sewer, and a 12 foot-wide irrigation ditch (Duel Creek Irrigation). The Porter Lane alternative would also cross six utility lines at Main Street, the same as previously identified for the Pages Lane alternative.

MO-42 Page 3-34, Section 3.2.1.9.3 (Bountiful Peak Alternative (Land Use)). Information should be added indicating that the Bountiful Peak alternative would have five residences, two commercial buildings, three industrial establishments, and one government facility (Utah Dept. of Highways Station 226), located within 100 feet of the centerline. In addition, the alternative as mapped in the DSEIS would cross a gravel pit for 0.2 mile, and would be located adjacent to a golf course for 0.1 mile.

MO-42 Comment partially accepted, see change to Vol. VI, Section 3.2.1.9.3. All of the residences noted would be more than 100 feet from the centerline of the alternative.

MO-42 (cont.) The Bountiful Peak alternative would cross seven utility lines at Main Street, milepost BP 47.5, including the six identified for the Main Street crossings of the Pages Lane and Porter Lane alternatives, plus a distribution power line.

MO-43 Page 3-38, last paragraph (Visual Resources - Bountiful Boulevard). The description of visual resources present should indicate that from BB 42.0-42.3 the Bountiful Boulevard route would depart from the Mountain Fuels right-of-way, and create a new right-of-way down the slope until Bountiful Boulevard is reached. This section of pipeline would traverse previously undisturbed natural vegetation, and would drop 600 feet on an average slope in excess of 30 percent. The new right-of-way would be highly visible from numerous viewpoints in the city of Bountiful. Although located on private land, this would result in a high visual impact. The visual absorption capability of this area is low-moderate. Slow natural revegetation could be adversely affected by ORV use, such as that which has occurred on the Mountain Fuels right-of-way. Thus, impacts will be long-term.

MO-44 Page 3-39, Section 3.2.1.12.3 (Bountiful Peak Alternative - Visual Resources). The first paragraph under the Bountiful Peak alternative presents incomplete

MO-43 Thank you for your perspective. Text stands as adequate.

MO-44 See response to FA2-9.

MO-44 (cont.)

information for this section of route. It fails to mention the presence of Skyline Drive along several miles of the proposed route, and also fails to indicate that several miles of this portion of the route would be through an area classified as Retention by the U.S. Forest Service. The significance of Skyline Drive as a local visual resource is described on pages 3-31 and 3-34 of the DSEIS.

The section of route from BP 38.5-44.4 would cross through areas classified as retention and partial retention by the U.S. Forest Service, and would be located entirely within the Wasatch-Cache National Forest. Critical viewpoints for this portion would include Skyline Drive, and the cities of Bountiful and Centerville. Elevations would range from 8000 to 9000 feet. The pipeline would be located on a ridgeline, generally paralleling Skyline Drive through the Retention area.

The section of route from BP 44.4-47.1 would descend a prominent ridge from below Bountiful Peak to the top of the Bonneville Terrace. This section would include both Forest Service land classified as partial retention, and private land with similar scenic characteristics. The pipeline route would drop from an elevation of about 9,000 feet to an elevation of 4,600 feet in

MO-44 (cont.) only 2.7 miles, an average slope of about 30 percent. The cleared right-of-way would be visually prominent from I-15 and local communities. Vegetation recovery would be slow.

MO-45 Page 4-42, Section 4.3.1.2.1 (Bountiful Boulevard Alternative (Geology)). The first paragraph should be supplemented with information presented on the Davis County Slope-Failure Inventory Maps. This analysis should indicate that the Bountiful Boulevard alternative would cross a large number of mapped areas of slope failure, include deep, active slope failure, shallow failure, and debris flows. These mapped areas would occur on 2.65 miles of the route, about 30 percent of the length of this variation.

The analysis of the Wasatch Fault (last sentence of first paragraph) should be supplemented with the information that this alternative would cross splays of the Wasatch Fault at five separate locations. Houses are present in the vicinity of several of the fault crossings. Additional splays of the Wasatch Fault would be crossed on the portion of the Wasatch Variation adjacent to this route, including one crossing at which 52 houses would be located within 660 feet of the fault/pipeline crossing.

MO-45 Thank you for the additional information. The text stands as adequate. This information will be used in the studies required by Staff's Recommended Mitigation Measures 4, 5, and 7 in the Vol. III Supplement.

MO-46 Page 4-42, Section 4.3.1.2.2. (Pages Lane Alternative (Geology)). The analysis should indicate that the Pages Lane and Porter Lane alternatives would cross several areas of slope instability identified on the Davis county Slope-Failure Inventory Maps. These areas occur along the existing Mountain Fuels right-of-way. The total length crossed would be about 0.7 mile.

The description of the Wasatch Fault should be supplemented with the notation that splays of the Wasatch Fault would be crossed twice each by the Pages Lane and Porter Lane alternatives. One of the crossings on the Porter Lane alternative would have 45 houses present within 660 feet of the fault/pipeline crossing.

MO-46 See previous response.

MO-47 Page 4-43, Table 4.3-1 (Geological Hazards). The information presented in this table does not correspond to that presented in the revised FEIS (Table 4.4-1 in the errata section on page 1-30 of the DSEIS). Several areas of impact are not presented here, and mileposts and impacts differ from those presented previously. Table 4.3-1 deals only with mileposts 15-75 or so, and does not include the entire Wasatch Variation. Some impacts included in the FEIS, such as avalanches, have been deleted from this table. The mileposts for surface fault rupture are not accurate and should be indicated as (gen-

MO-47 Comment partially accepted, see change to Vol. VI, Table 4.3-1.

MO-47 (cont.) erally) BB 42.0-46.3 and WV 46.4-49.0 on the Bountiful Boulevard alternative, 42-44 on the Pages Lane and Porter Lane alternatives, and BP 47.3 on the Bountiful Peak alternative.

MO-48 Page 4-44, Section 4.3.1.2.3 (Bountiful Peak Alternative (Geology)). The analysis of slope instability in this section should refer to the Forest Service observations of numerous areas of slumps and debris slides on the ridge being traversed, mentioned on page 3-21. It should also indicate that the Davis County Slope-Failure Inventory Maps indicate several areas of slope instability on this route.

MO-49 Page 4-44, Section 4.3.1.4 (Surface Water). The analysis of each of the alternatives should indicate the numbers of streams with high side-slope or channel-bed sensitivity that would be crossed, since this is a parameter used in the Volume III comparisons. These numbers would be 12 on the Bountiful Boulevard alternative (including two on the new portion of route); 11 on the Pages Lane/Porter Lane alternative (including one on the new portion of route); and 10 on the Bountiful Peak alternative (none on the new portion of route).

MO-50 Page 4-44, Section 4.3.1.4.1 (Bountiful Peak Alternative (Surface Water)). The description of munici-

MO-48 See response to MO-45.

MO-49 The data presented in Section 4.3.1.4 is consistent with that in the FEIR/S. This information was presented in Table 3.2-2.

MO-50 Comment partially accepted, see response to MO-30 and change to Vol. VI, Section 4.3.1.4.1.

MO-50 (cont.) pal watershed impacts on the Bountiful Boulevard alternative in the second paragraph should indicate that approximately 3.1 miles of Holbrook and Mill Creek watersheds would be crossed, including areas of high erosion potential and mapped slope instability.

MO-51 Page 4-46, Section 4.3.1.4.2 (Pages Lane Alternative (Surface Water)). The description of impacts from the Pages Lane and Porter Lane alternatives should indicate that 1.75 miles of the Holbrook Canyon municipal watershed would be crossed, including areas of high erosion potential and mapped slope instability.

MO-52 Pages 4-47, Section 4.3.1.6 (Freshwater Biology). The numbers of streams with a significant potential for impact is not consistent with numbers and data previously presented for the Wasatch variation in the FEIS or with Table 1.5-1 in Supplemental Volume III. Stone Creek is not evaluated in the FEIS, and, therefore, this section should indicate whether significant impacts are likely to occur for this creek.

MO-53 Page 4-52 (General Wildlife). Under Class III impacts, the 215 acres of big game winter range disturbed is not consistent with the 46.7 miles of wintering big game presented above. Instead of 215 acres, this number should be 566 acres, based on the 46.7 miles. Mojave's

MO-51 Comment accepted, see change in Vol. VI, Section 4.3.1.4.2.

MO-52 Comment partially accepted, see change in Section 4.3.1.6. Because the Pages Lane Alternative would be placed within the existing roadbed at Stone Creek, no impact to Stone Creek would occur.

MO-53 Comment partially accepted, see changes in Vol. VI, Section 4.3.1.7.2. There are some discrepancies in the analysis of the Wasatch Variation Alternatives. A review and recalculation of big game winter range and disturbance impacts revealed that:

1. Total miles of pipeline disturbance to wintering big game should be 45.9 miles as opposed to the 46.7 miles presented in the summary on page 4-52. This is based on the 43.1 miles (described in the FEIR/S, II/Table 3.3-5, page 3-106), and an additional 2.8 miles along the new portion of this alternative.

2. The number of acres of Class III disturbance of big game winter range is incorrectly stated as 215 acres. There is a total of 30.1 miles of big game winter range that would be crossed by the proposed ROW (29.3 miles on the originally analyzed Wasatch Variation, FEIR/S, and 0.8 miles on the new portion of the Bountiful Boulevard Alternative). The 30.1 miles is less than the total of potential disturbance of 45.9 miles, as noted in #1 above, because a portion of the 45.9 miles falls within the one-mile analysis corridor but outside of the ROW, and the habitat would not be affected by pipeline construction. Additionally, some of the important winter ranges overlap (e.g., elk critical and mule deer

MO-53 (cont.)	calculations, based on the data presented in the FEIS and DSEIS, show 43.9 miles and 532 acres. Table 1.5-1 in Supplemental Volume III shows 503 acres.	MO-53 (cont.)	critical winter ranges) further reducing the cumulative total. Based on 30.1 miles of direct disturbance of important winter range, the impact should be 364 acres as opposed to the listed 215 acres.
MO-54	Page 4-52 (Wildlife Species of Special Concern). The listing of 4 miles of Class II impacts to wintering bald eagles is not consistent with data presented in the Kern River Biological Assessment, which shows 5.5 miles of winter concentration areas, plus a bald eagle winter roost, on portions of the Wasatch Variation which would not change by use of the Bountiful Boulevard alternative. The roost site is not located within any of the winter concentration areas, and impacts to this site should also be listed as a Class II impact, as it was in the FEIS.	MO-54	Comment accepted, see change to Vol. VI, Section 4.3.1.7.2.
MO-55	Page 4-54 (Pages Lane Alternative (Wildlife Species of Special Concern)). The Wasatch Variation using the Pages Lane variation also would affect 5.5 miles of bald eagle habitat instead of four miles.	MO-55	Comment accepted, see Vol. VI, Section 4.3.1.7.2.
MO-56	Pages 4-55 (Wildlife Species of Special Concern). The number of miles of bald eagle winter concentration areas should be 13.7, plus a bald eagle winter roost, located along the Wasatch Variation route.	MO-56	Comment accepted, see Vol. VI, Section 4.3.1.7.2.
MO-57	Page 4-55, Section 4.3.1.8.2 (Traffic). The evaluation of impacts to traffic should include an analy-	MO-57	Thank you for your perspective.

MO-57 (cont.) sis of potential increases in ORV use in areas where they are prohibited or considered undesirable, and an evaluation of the impacts of access road construction in currently roadless areas.

MO-58 Page 4-55 (Bountiful Boulevard Alternative (Traffic)). The analysis should indicate that the alternative would be placed under Bountiful Boulevard for 3 miles. Due to the difficulties in constructing in a congested area, and the length of roadway involved, delays and detours due to construction are likely to last longer than one week, and impacts to traffic will, therefore, be significant, based on the criteria established in the FEIS. In place of the sentence "the Bountiful Boulevard Alternative does not cross many residential streets," the following information should be provided. The Bountiful Boulevard alternative will cross intersections with eight side streets where it would be located under Bountiful Boulevard. Several of these streets provide essentially the only means of access to residential neighborhoods. Construction across these intersections may result in significant delays or detours to traffic. Additional road crossings would occur on the adjacent portion of the Wasatch Variation previously analyzed in the FEIS.

MO-58 Comment accepted, see change in Vol. VI, Section 4.3.1.8.2.

MO-59 The potential for ORV use of the new portion of right-of-way that would extend from the existing Mountain Fuels line to Bountiful Boulevard should be addressed. This .3 mile of cleared right-of-way would provide a second point of access to the Mountain Fuels right-of-way, which is already experiencing significant levels of illegal ORV use. Because of the relatively steep terrain adjacent to a highly populated area, it is likely that the new area will experience significant levels of ORV use by people desiring a motorized hill-climbing experience.

Breaking of the present asphalt street surface for pipeline construction is likely to lead to long-term maintenance difficulties, since the portion of the street surface restored by the contractor will not have the same quality as the original surface. The only way a uniform road surface can be restored is to repave the entire street.

MO-60 Page 4-56 (Pages Lane Alternative (Traffic)). The length of time that significant impacts are likely to be experienced should be identified. Since there will be construction under 3.6 miles of Pages Lane, as well as numerous cross streets, delays and detours will be significant. As on the Bountiful Boulevard Alternative, the

MO-59 Thank you for your opinion. Text stands.

MO-60 Thank you for your comment. Text stands as adequate.

MO-60 (cont.) restored street surface may require a considerably increased level of maintenance unless the entire street is resurfaced.

This section should indicate that impacts to traffic by the Porter Lane alternative would be similar to those on the Pages Lane alternative, and would be significant.

MO-61 Page 4-56 (Bountiful Peak Alternative (Traffic)). Impacts to Skyline Drive should be described in more detail. The period of impact and the magnitude of impact (total or partial road closure) should be addressed. The possible requirements for improvements to this road to support heavy equipment should also be addressed along with the resulting impacts of that construction.

MO-62 This alternative may create major new sources of access for ORVs into previously unroaded areas, from Skyline Drive, and from the Centerville area.

MO-63 Page 4-56, Section 4.3.1.8.3 (Noise). The last sentence should indicate that construction noise impacts will be significant short-term impacts on the Bountiful Boulevard, Pages Lane and Porter Lane alternatives.

MO-64 Page 4-57, first full paragraph (Recreational Resources). This sentence is incorrect. City parks and

MO-61 See response to FA2-8 and 9.

MO-62 Thank you for your comment.

MO-63 Staff disagrees. Text stands.

MO-64 Comment accepted, see change to Vol. VI, Section 4.3.1.8.4.

MO-64 (cont.) golf courses are in or adjacent to the proposed rights-of-way on each of the alternatives, based on the locations of the routes mapped in the DSEIS. Impacts to these areas should be addressed.

MO-65 Page 4-57 (Bountiful Boulevard Alternative (Recreation)). The affected environment description of this route mentions only semi-primitive non-motorized areas within the national forest. There is no ROS classification of "semi-primitive motorized." The numbers of miles of ROS classification that would be affected should be presented (1 mile). The reasons for a significant impact should be stated. The presence of existing unacceptable levels of ORV use, and the potential for similar unacceptable levels of ORV use on portions of the new route should be stated.

MO-66 Page 4-57 (Pages Lane Alternative (Recreation)). The analysis should state whether construction across the 1 mile of semi-primitive non-motorized and 0.8 mile of roaded natural would be significant, and if so, why.

MO-67 Page 4-57 (Bountiful Peak Alternative (Recreation)). According to the impact criteria established in the FEIS, construction through the 4 miles of semi-private non-motorized areas would represent a significant

MO-65 Thank you for your comment. Impact discussion is completely adequate. The comment is fully covered in Section 3.2.1.8.3.

MO-66 Comment accepted, see change in Vol. VI, Section 4.3.1.8.4.

MO-67 Impact to dispersed recreation would take place in the form of reduced access to portions of Skyline Drive during construction and subsequent reduction in areas of the Forest available for recreation. This impact would only occur during construction and full use of the Forest would return subsequent to the end of construction. Access to the Bountiful Peak Campground would only be restricted from the Bountiful City entry point. Access from Farmington would not be affected.

MO-67 (cont.) impact to dispersed recreation. Magnitude of impact (significance) should be clearly stated. Impacts to Skyline Drive should be addressed more fully. The sentence stating that impacts to the natural visual scene would be short-term is not correct. This portion of the route has poor reclamation potential (DSEIS page A-9), as well as montane forest vegetation which will be naturally slow to recover (DSEIS pages 3-24 and 4-49).

The justification for the statement that "construction workers will attempt to avoid public campgrounds" should be presented. Effects on access to Bountiful Peak campground should be clarified.

MO-68 Page 4-60 (Bountiful Boulevard and Pages Lane Alternative (Land Use)). The "short and long-term impacts" should be identified. The presence of numerous utilities which could be affected during construction, or which could constrain use of this route should be identified. The number of current residences that would be impacted, as well as the number of undeveloped lots potentially impacted should be presented. The number of residences has been previously presented by Mojave in this comment letter.

MO-69 Page 4-61, Section 4.3.10 (Cultural Resources). This section does not present any information on poten-

MO-68 See response to MO-9.

MO-69 The level of detail presented in Section 4.3.10 is consistent with that in the FEIR/S. More specific information will be developed as a result of Staff's Recommended Mitigation Measure 106.

MO-69 (cont.) tial impacts. Even in the absence of specific information on cultural resources present along the routes, some statements could be made, based on previous finds in the general area, the prehistory and history of the area, and ecological conditions.

MO-70 Page 4.62, Section 4.3.1.12.1 (Bountiful Boulevard Alternative (Visual Resources). A paragraph should be added for mileposts BB 42.0-42.3. This segment would consist of new right-of-way descending a steep hill from the Mountain Fuels right-of-way to Bountiful Boulevard. The cleared right-of-way would be highly visible from numerous viewpoints in the City of Bountiful. Revegetation would be slow, and may be complicated by the presence of highly erodible soils, steep slopes, and areas of slope instability. Because of its proximity to an urban area, ORVs are likely to use the right-of-way and will also cause delays in revegetation, and potential long-term effects on soils. High, significant, long-term impacts to visual resources would, therefore, result.

MO-71 Page 4-63, Table 4.3-7 (Visual Impacts). This table should be changed to include the information presented in Mojave's next comment.

MO-72 Page 4-64, Section 4.3.1.12.3 (Bountiful Peak Alternative (Visual Resources). The analysis of visual

MO-70 See response MO-43.

MO-71 See previous response.

MO-72 See response to FA2-9.

MO-72 (cont.) impacts on the Bountiful Peak Alternative is inaccurate. It fails to identify the presence of either Skyline Drive or several miles of retention areas along it. The paragraph presented should be deleted, and replaced with the following information.

BP 38.5-44.4 VRM/VQO: FS Class R/PR

This segment would traverse a ridgeline from the juncture with the Mountain Fuels right-of-way to Bountiful Peak. The first 2.2 miles would be in a partial retention area along the ridgeline where there are no current roads. The remaining 3.7 miles would be located in a retention area, mostly adjacent to Skyline Drive. Skyline Drive is a scenic drive promoted by the Utah Travel Council, for "the most spectacular" panoramic views.

The cleared right-of-way throughout this segment would be visible from Skyline Drive and from points in Bountiful. Slow revegetation would create a long-term impact. High significant visual impacts would result.

BP 44.4-47.1 VRM/VQO: FS Class PR/private

This segment of route would descend a prominent ridge from near Bountiful Peak to the top of the Bonneville Terraces. The cleared right-of-way would be highly visible from I-15 and local communities. Slow natural

MO-72 (cont.) revegetation would be complicated by high erosion potential, and areas of slope instability, as well as potential ORV use of the right-of-way. High significant visual impacts would occur.

MO-73 Page 4-65, Section 4.3.1.13.1 (Bountiful Boulevard (System Safety and Reliablity)). The analysis should indicate that splays of the Wasatch Fault would be crossed five times, with 18 houses located in proximity to the fault crossings (within 660 feet). On the adjacent portion of the Wasatch Variation, which would also be traversed using this alternative, three splays of the Wasatch Fault would also be crossed, one of which in North Salt Lake would have 52 houses in proximity to the crossing.

The following information should also be added. The presence of a high-pressure gas pipeline under a city street in close proximity to numerous other utility lines may present a substantial risk of pipeline failure from maintenance and construction work associated with those utilities. The leading cause of leaks and ruptures in natural gas pipelines is outside force, including mechanical equipment such as backhoes, according to Department of Transportation statistics.

MO-73 Comment partially accepted, see response MO-45. The potentiality of disruption to the natural gas pipeline during maintenance of other utilities was referenced in Section 4.3.1.9. See text change in Vol. VI, Section 4.3.1.13.

MO-73 (cont.) The analysis should note that both the pipeline and the street would cross several miles of mapped slope-failure features. Both the street and the pipeline would cross a deep-seated active slope-failure near the mouth of Holbrook Canyon. Some areas of slope instability will be encountered before the pipeline route crosses Bountiful Boulevard on this alternative, and additional areas of slope instability will be crossed where Bountiful Boulevard has not yet been completed, and on the portion of the Wasatch Variation immediately adjacent which must also be followed if this alternative is used.

MO-74 Page 4-65, Section 4.3.1.13.2 (Pages Lane Alternative (System Safety and Reliability)). The following information should be added. Both the Pages Lane and Porter Lane Alternatives would cross two strands of the Wasatch Fault zone. One of the crossings on the Porter Lane Alternative would have 45 houses located within a radius of 660 feet; the other crossings would have approximately 2 houses in proximity.

Mapped areas of slope instability occur along the portion of these routes that follow the Mountain Fuels right-of-way. These areas are not under city streets. The portions of the right-of-way under city streets have no mapped areas of slope instability.

MO-74 See previous response.

MO-74 (cont.) Page 4-65, Section 4.3.13.3 (Bountiful Peak Alternative (System Safety and Reliability)). The analysis should note that the one crossing of the Wasatch Fault is in an area where no houses are present. Limited areas of mapped slope instability are located along the proposed route, but numerous slope instability features are present within the analysis corridor.

C. WyCal North Las Vegas Variation Extension.

MO-75 Page 3-43 (Plant Species of Special Concern). This paragraph should note that four of the six plant species of special concern present along the WyCal North Las Vegas route are listed as endangered by the State of Nevada. These include desert poppy (Arctomecon californiacum), milk vetch (Astraglus geyeri var. triquetrus), Catseye (Cryptantha insolita), and wild buckwheat (Eriogonum viscidulum). This information should also be provided in Appendix B on page B-1. Under the column of status, a notation of "NE" should be added to the listing for Arctomecon californicum, Astragalus geyeri var. triquetrus, and Cryptantha insolita, to represent their Nevada state status.

MO-76 Page 3-45, first paragraph (Traffic). The last sentence indicates that approximately 17 miles of the proposed alternative would be adjacent to or overlapping

MO-75 The text is consistent with the approach used in the FEIR/S. The listing of plant species of special concern outside of Federal or California species has not been done in either the FEIR/S or the Draft Supplement.

MO-76 The text stands as accurate. The staff disagrees that any portion of the subject interval can be characterized as "essentially roadless".

MO-76 (cont.) existing four-wheel drive trails, unimproved roads, or pipeline corridors. The number of miles of essentially roadless areas traversed should be provided with mileposts.

MO-77 Page 3-46, top paragraph (Recreation). BLM management standards and guidelines for ORV use of this area should be presented.

MO-78 Pages 3-46 and 4-71 (Land Ownership/Use). The numbers of potential conflicts with active or inactive mining operations should be addressed as well as the number of miles of route which cross through mining areas. Information on mines and mining operations in the study area should be presented here or in the Geology section (which provides no information on mines or presence of mineral resources). The WyCal environmental documents presented in the FERC certification hearings indicates that this portion of the route would cross 14 miles of mining claims, and near an active mine. The relationship of the route to designated utility corridors should be indicated. BLM standards for approval of new utility line routes should be addressed.

MO-79 Page 3-48, Section 3.2.2.12 (Visual Resources). The first sentence indicates that the new WyCal portion of the North Las Variation "has been substituted for" a

MO-77 The analysis is consistent with that contained in the FEIR/S. Text stands.

MO-78 Mining activities are referenced in Sections 3.2.2.9 and 4.3.2.9. Thank you for the additional information. Text stands.

MO-79 Comment accepted, see change in text of Vol. VI, Section 3.2.2.12.

MO-79 (cont.) portion of the previously analyzed route. This is incorrect; it is an extension of the previously analyzed route.

MO-80 Page 4-67, Section 4.3.2.4 (Surface Water). This section should indicate that an additional intermittent stream would be crossed on the WyCal extension, based on the information presented on page 3-42. The vegetation description on page 3-43 indicates that 1 mile of riparian and wetland vegetation would be present at Crescent Springs. The characteristics of these springs, and potential impacts to them should be discussed under Surface Water in the DSEIS. Springs are of special importance in desert areas.

MO-81 Page 4-67, Section 4.3.2.7.1 (Vegetation). The paragraph concerning impacts to special status plant species should state that four species listed as endangered by the State of Nevada could be impacted through construction of the WyCal North Las Vegas Variation. The emphasis on habitat loss of Merriam's poppy appears to be unwarranted since this is a federal C3 species, and is not state-listed.

MO-82 Page 4-70 (Wildlife Species of Special Concern). The summary of Class I and Class II impacts indicates that there are 4.5 miles of crucial desert tortoise

MO-80 An additional intermittent drainage channel crossing would not constitute a significant difference between the referenced routes. Further, the FEIR/S adequately characterizes the type and magnitude of impacts that would occur due to crossing intermittent drainage channels in this region. It should be noted that the wetland/riparian type crossed between NLV 126-127 has a limited extent. The listed mileposts presented in Table 3.2-10 and similar tables in the FEIR/S only serve to identify and generally locate the narrow wetland/riparian zones along the various routes. Areas of disturbance within this type are calculated and are based on the actual width of these narrow bands rather than on the mileposts listed in the tables. Descriptive information presented in the FEIR/S also applies to the same type of features along the WyCal routes. Therefore, reference to the FEIR/S in Sections 3.2.2.4 and 3.2.2.5 in appropriate.

MO-81 See response to MO-75.

MO-82 See response to IN2-85. Text discussions of the North Las Vegas Variation are only for the new (41 miles) portions of the route. All tables list the total impacts for the proposed route and the variations.

Comments regarding the Gila monster accepted, see change to Vol. VI, Section 3.2.2.7.2.

MO-82 (cont.) habitat, and approximately 37 miles of "tortoise habitat not presently defined as crucial." This is not consistent with the analysis presented on page 3-44, which states "four crucial desert tortoise habitat sites . . . are crossed by this variation for a total of 40 miles."

The analysis of desert tortoise habitat should note that one of the populations crossed has the highest desert tortoise densities in Nevada, according to information provided by WyCal in its Phase II Testimony Exhibit WC-3B, Schedule 2, Environmental Report for a portion of the North Las Vegas Variation of the Proposed Wyoming-California Pipeline Project. This high-density area is crossed for 4.5 miles; a second high density population is crossed for an additional 4 miles.

The summary of Class I and II impacts only includes the new portion of the North Las Vegas Variation, and does not include the impacts for the original 109 miles of the North Las Vegas Variation. While it is appropriate to present an analysis for the new portion by itself, the combined impacts of the whole North Las Vegas Variation should be presented as has been done for most resources and for the other routes analyzed.

MO-82 (cont.) Since impacts to Gila monsters are identified as a Class I impact in this section, their potential occurrence, type of habitat and relative amount of habitat traversed should be discussed in the Affected Environment section (Section 3.2.2.7.2).

The WyCal Environmental Report (Exhibit WC-3B, Schedule 2) indicates that the route would cross bighorn sheep migration routes. This is not discussed in either the wildlife affected environment or environmental consequences sections of this DSEIS.

One of the Class II impacts listed is "Increased disturbance, death, vandalism, habitat destruction and theft of tortoise due to increased ORV access along the proposed variation." It appears that most of the WyCal extension of the North Las Vegas Variation traverses areas which are presently roadless. The miles of crucial desert tortoise habitat which are presently roadless and which would be opened up to ORV use by the presence of the pipeline right-of-way should be addressed.

MO-83 Page 4-71, Section 4.3.2.8.3 (Traffic). The impacts of upgrading unimproved roads and jeep trails to allow passage of pipeline construction equipment should be addressed. Potential requirements for new access

MO-83 It would be inappropriate to address these potential impacts in Section 4.3.2.8.3.

MO-83 (cont.) roads should be addressed. The number of miles of previously unroaded areas which would be opened up by either the presence of the right-of-way or by improved access roads should be indicated.

MO-84 Page 4-71 (Traffic and Recreational Resources). Mojave notes that nearly all of the impact analyses deal with the entire North Las Vegas Variation, except for wildlife and these two resources. To prevent confusion over the area being described, either the entire variation should be analyzed (consistent with other resources), or references should be made to impacts previously described in the FEIS (such as Off-Road Vehicle Area 13).

MO-84 See change to text in Vol. VI, Section 4.3.2.

MO-85 Page 4-72, Tables 4.3-11 and 4.3-12 (Land Use). These tables only describe impacts on the WyCal Extension of the North Las Vegas Variation, and should be labeled as such. To be consistent with analyses elsewhere in the DSEIS, impacts for the entire North Las Vegas Variation should be presented. The wording of the last two sentences on page 4-71 also needs to be changed to indicate that these tables only deal with the additional 41 miles of the variation, and not with the original 109 mile route.

MO-85 Comment accepted, see changes to Vol. VI, Tables 4.3-11 and 4.3-12.

MO-86 Page 4-74, Section 4.3.2.13 (System Safety and Reliability). The length of pipeline is incorrectly stated in the second line of the first paragraph.

D. WyCal Impact Summary

MO-87 Page 4-81, Table 4.6-1 (Significant Adverse Impacts, WyCal Pipeline Proposal). Under surface water, the first impact discussing sediment increases and effects on water quality is indicated as having no residual significant impact, in the last column. This is not consistent with the summary of effectiveness in the fourth column which says that stabilization may take 5-10 years. It is also not consistent with the treatment of the same impact for Kern River in the FEIS. Kern River and WyCal should have similar impacts since they would cross the same streams in the Middle Rocky Mountains. The "no" in this column is also not consistent with the "yes" for effects on aquatic biology on the next page. This would be a significant residual impact as previously noted with respect to Kern River.

Page 4-84, Table 4.7-1. The conclusions presented in this table for surface water and freshwater biology are inconsistent with those presented for the Kern River route, as modified by the Errata presented in Section 1.5 of Volume VI of the Supplemental EIS. Spe-

MO-86 Comment accepted, see change in text of Vol. VI, Section 4.3.2.13.

MO-87 Comments accepted, see changes to Vol. VI, Tables 4.6-1, 4.7-1, and S-8.

MO-87 (cont.) cifically, on page 1-31, three changes are indicated as having been made on Table 4.9-1 of Volume II of the EIS. These included replacement of language indicating no significant impacts with language indicating that some significant long-term impacts would occur. Table 4.7-1 on page 4-84 repeats the uncorrected form of this table; since the impacts of Kern River and WyCal would be identical for surface water and freshwater biology, the corrections must be applied to this table.

Page S-22, Tables S-8 (Significant Adverse Impacts - WyCal Pipeline Proposal). This table is identical to that presented on page 4-81, and the same change should be made to it, changing "no" significant residual impacts for stream sedimentation to "yes".

IV. MITIGATION MEASURES

MO-88 Volume III Supplement - WyCal, Pages 1-103. The statement made that Mojave has not committed to implementing the mitigation measures presented in the Mojave FEIR/S is not accurate. Mojave is committed to implementing all of the mitigation measures included in the FEIR/S which apply to Mojave. El Paso and Transwestern are also committed to implementing measures which apply to their respective projects. Most of these mitigation measures were initially adopted by Mojave, Transwestern

MO-88 See response to MO-4.

MO-88 (cont.)

and El Paso in their Environmental Reports. Similar commitments have been made in testimony filed by witnesses for each applicant who testified in Phases 1 and 2 hearings; commitments were also made during the cross-examination of these witnesses in the Phases 1 and 2 hearings.

The statement is also made that Mojave's hesitancy to adopt FERC staff-recommended mitigation measures was one of the bases for the U.S. Fish and Wildlife Service (USFWS) Jeopardy Biological Opinion concerning certain Federal Endangered and Threatened Species. This statement is not accurate. It is also stated that the USFWS did not know what measures Mojave was willing to adopt. This statement is also inaccurate. Mojave's position concerning its commitment to implement mitigation measures suggested by the USFWS in its draft Biological Opinion was clearly stated in its comments on the draft Biological Opinion (July 8, 1987 letter from Woodward-Clyde Consultants to Mr. Richard R. Hoffman, Chief of Environmental Evaluation Branch, FERC). In its comments, Mojave indicated the following:

- Page 9 - "Mojave is committed to implementing appropriate mitigation to prevent significant adverse impacts to threatened or endangered species. Mojave proposes to further discuss mitigation for these three species with the FERC, California State Land

MO-88 (cont.)

Commission, U.S. Fish and Wildlife Service, California Department of Fish and Game, Bureau of Land Management and other relevant agencies. Mojave also indicated that further discussion was necessary primarily to accurately determine areas of habitat disturbance."

- Page 10 - "Mojave believes that the mitigation measures listed to reduce potential incidental take of these three species are reasonable. Mojave proposes to finalize the details of implementing these measures through future discussion with the relevant agencies."
- Pages 10 and 11 - "Mojave believes that the conservation recommendations listed for the blunt-nosed leopard lizard and San Joaquin kit fox are reasonable. Mojave proposes to implement these measures to the extent possible and finalize the details of implementing these measures through further discussions with the relevant agencies. Additional conservation measures listed in the Draft Biological Opinion apply to listed species which do not occur in the Mojave project area.

Thus, on the basis of these comments, Mojave's commitment to implement mitigation measures suggested by the USFWS is clear.

MO-88 (cont.) On the bottom of page 4-103, it is stated that it is staff's opinion that the USFWS Jeopardy Biological Opinion does not apply to WyCal because WyCal has adopted staff's mitigation recommendations. The Biological Opinion recommends mitigation measures to offset the Jeopardy Biological Opinions for certain species. As previously noted, Mojave, Transwestern and El Paso have agreed to implement the general mitigation measures for each of their projects identified in the DEIR/S. Thus, WyCal's commitment to mitigation is no greater than the commitments of Mojave, Transwestern, and El Paso.

V. Supplemental Volume III.

MO-89 Page 1-1, Section 1.1 - Introduction. The first sentence indicates that comparisons are made on the basis of both significant and nonsignificant impacts. A problem that occurs occasionally in this analysis, as we will demonstrate, is that it does not always clearly distinguish the nonsignificant and significant impacts.

The last sentence indicates that Supplemental Volume III "represents a reevaluation of the Mojave and Kern River data . . .." Mojave interprets this to mean that the data, analysis and conclusions presented in Supplemental Volume III may be commented on.

MO-89 This would be wrong interpretation with respect to pages 1-1 to 1-69 of the Vol. III Supplement which was simply reprinted to give the reader basic summary information of Vols. I and II of the FEIR/S. These pages, like the other volumes of the FEIR/S, were not changed and not subject to the comment process. As stated on page 1-9 of Vol. VI, the staff does not intend to allow this Supplement to resurrect old issues (which Mojave is attempting here) nor entertain comments on old issues (which staff will not do). The comment period for old issues is closed. All the comments presented in the following Section V-A and V-B of Mojave's comments are not being considered or entertained.

A. Mojave System Comparisons.

Pages 1-2 to 1-5, Table 1.2-1 - Mojave Summary of Impacts. Mojave has identified several errors and inconsistencies in the data presented in this table, and places where Mojave's analysis disagrees. These are indicated below.

1. Surface Fault Rupture. During the FERC certification hearings, Mojave presented testimony, based on detailed technical analysis, of the numbers of faults present on the Mojave and Kern River systems. The reason for this testimony was the changes made to the fault table in the FEIS, from the DEIS. For the Mojave systems, the FEIS listings were identical to Kern River's comments on the DEIS; however, Kern River's geology witness Dr. Clive Kienle later withdrew testimony identical to Kern River's comments because it contained errors and was not complete. Based on Mojave's analysis, presented as Exhibits MP-192, 194, 195, 196, and 197, the number of fault crossings (surface fault rupture parameter) should be 22 for Mojave System A; 22 for Mojave System B; 20 for Mojave System C; 21 for Mojave System D; and 20 for the Mojave proposed route.

2. Miles of Landslide Potential. Mojave also presented testimony on miles of landslide potential in

Exhibit MP-192. Mojave conducted its own analysis of potential slope instability problems on the Mojave systems, based on review of aerial photographs, geologic maps, and field reconnaissance. No areas of significant slope instability were identified on the Transwestern, El Paso or Northwest loops. (Please note that Douglas Pass, where Northwest has had major slope failure problems, is not located on the Northwest loops included in the FEIS). About two miles of moderate slope problems were found in the Tehachapi Mountains. Therefore, the entries of "miles of landslide potential" should be two for each of Mojave Systems, and two for the Mojave Mainline.

3. Big Game Crucial or High Priority Habitat. The analysis of wildlife in Volume I of the FEIS does not indicate that the Mojave Pipeline would cross 85 acres of crucial or high priority big game habitat, or any big game habitat. It does indicate that two miles of desert bighorn habitat would be crossed, on page 3-155, but this habitat is not identified as "crucial or high priority." The bighorn sheep is evaluated as a special status and not as a game species and, in any event, two miles would be only 24 acres with a 100-foot wide ROW. Therefore, the 85-acres is unsupported by the FEIS technical analy-

sis, and should be deleted from the totals for Mojave System A-D, and from the Mojave Mainline.

4. Big Game Migration Corridors. The numbers presented for big game migration corridors are similarly unsupported by the technical analysis. The only migration corridors mentioned are for bighorn sheep, which is evaluated as a special status and not as a game species, and no mileage or acreage of migration corridors for this species are presented. The 121 acres should be deleted from Mojave Systems A, B, C and D, and from the Mojave Mainline.

5. San Joaquin Kit Fox. The numbers presented for Mojave Systems A-D and the Mojave Mainline are not consistent with data presented in the FEIS technical analysis. On page 4-40 of Volume I, the analysis of impacts in the Tehachapi Mountain region indicates that 4 miles of San Joaquin kit fox habitat would be crossed. This area is stated to be marginal habitat. On page 4-12, the FEIS indicates that 34 miles of suitable habitat would be crossed in the San Joaquin Valley. An additional 10 miles would be crossed on the Kern Lateral, as indicated on page 4-43. The total of 48 miles is equal to 582 acres with a 100 foot-wide ROW. These numbers are

consistent with those also presented in the Biological Assessment.

6. Special Status Animal Species, Alternative A. The 121 acres indicated for the peregrine falcon, bald eagle and Yuma clapper rail are in error. The FEIS analysis on page 4-85 indicates that impacts to the bald eagle and peregrine falcon would be confined to the last .25 mile of the route, and would be Class III (nonsignificant). Thus, if any figures at all are provided for this variation, it should be three acres. The analysis further indicates that the Yuma clapper rail potentially nests within 0.5 mile of the terminus of the route. The only type of potential impact described is from fuel spills, which would be highly unlikely. The location of this route compared to the Colorado river makes it possible only for such spills to reach the river near the end of the route. The Biological Assessment indicates that the Mojave Project would have no significant impacts on this species. At a maximum, this table should indicate potential impacts along 0.5 mile of the route, or 6 acres.

Impacts on the Mojave Mainline and Systems A and B are similarly overstated. The summary of significant impacts on page 4-45 of Volume I of the FEIS does not discuss them, and the Biological Assessment indicates that impacts would be nonsignificant.

Page 1-7, fourth paragraph. The three crossings include one on a bridge (Colorado River), and one which is not an actual crossing, but which is paralleled (Poso Creek). No significant impacts are expected at any of these crossings, according to the FEIS impact analysis.

Page 1-7, last paragraph. The first two sentences overstate potential impacts. As shown in the Biological Assessment for Transwestern, the 60 acres represent potential but unoccupied habitat; field surveys failed to establish its occurrence, and the nearest known populations are 20 miles away. (Transwestern Biological Assessment, errata sheet) The sentence beginning "Three California state . . ." is also incorrect. Only two California state-listed species might be impacted, based on current information. The only species with potential habitat present along the Mojave Pipeline are the California jewelflower and the Red Rock tarweed; the Bakersfield saltbush, which has habitat present on the Kern River route, does not have potential habitat present on the Mojave route (Biological Assessment, page 20).

Page 1-8, second complete paragraph. As indicated in comments on Table 1.2-1, the acreage of big game habitat is overstated, and the acreage of migration corridors crossed by Mojave should be indicated at "0".

Page 1-8, last paragraph. The sentence beginning "Other significant impacts . . ." is incorrect. Impacts to recreation at these locations are not identified as significant in the Volume I analysis, and do not meet the stated significance criteria included on page 4-58. The FEIS does not state that there would be significant impacts on the Parker 400 ORV race. No park facilities would be removed from any of these areas, according to the FEIS analysis.

Page 1-9, second complete paragraph. The statement in this paragraph regarding "major, probably permanent" visual impacts at two parks is not consistent with the summary of visual impacts presented in the last paragraph of the same page. Impacts at Tehachapi Mountain Park are identified as moderate on page 4-74 of the FEIS; impacts to Kern River State Park were not specifically addressed and must, therefore, have been nonsignificant.

Page 1-9, third complete paragraph. The first sentence indicates that there would be conflicts with the

Golden Shores zoning regulations. This should not be listed as a land use conflict in Table 1.2-1 or discussed herein, because the analysis of this area on page 4-60 of Volume II of the FEIS states that "consultation . . . will be necessary but no significant impact is anticipated." Similar land use conflicts on the Kern River and WyCal routes, where consultation is required but no significant impacts are anticipated, such as Nellis Air Force Base, are not listed on the summary tables for WyCal and Kern River.

Pages 1-9 to 1-11, Section 1.2.2 - Mojave System B. Comments previously made with regard to Mojave System A for fault crossings, landslide areas, perennial streams, sensitive plant species, big game habitat and recreation impacts also apply to this system.

Pages 1-11 to 1-15, Section 1.2.3 - Mojave System C. Comments previously made with regard to Mojave System A for fault crossings, landslide areas, perennial streams, sensitive plant species, big game habitat and recreation impacts also apply to this system.

Pages 1-15 to 1-18, Section 1.2.4 - Mojave System D. Previous comments made with regard to fault crossings, landslide areas, sensitive plant species, big game habitat and recreation impacts also apply to the analysis of this system.

Page 1-19, ninth paragraph. The acreage for special status animal species is greatly overstated. With the exception of the desert tortoise, the Volume I analysis indicates that impacts to these species would be nonsignificant.

Page 1-22, last paragraph. Comments on geologic hazards for each of these systems have already been presented. The comparison of these systems based on the miles of slope instability indicated in the FEIS summary tables is misleading, since none of these routes have serious slope stability problems. The characterization of Mojave System D areas of instability as being in "mountanous portions of the Rocky Mountains in Colorado" is not correct. The Rangely A and B loops referred to follow valleys in moderate elevation terrain. The portion of the Northwest Pipeline crossing Douglas Pass where higher terain and serious slope instability are present, is located between the Rangely A and B loops.

Page 1-23, third paragraph. The miles of groundwater impacts indicated here (96-134) are much higher than those indicated in Table 1.2-1 and should be reduced.

Page 1-23, fifth paragraph. The comparison of impacts to sensitive plant species should indicate that impacts would be similar on Mojave Systems A, B and C. Although "potential" habitat occurs on Mojave Systems A and B, based on crossing of one geologic formation, searches of this area failed to locate any individuals.

B. Kern River Comparisons.

Table 1.4-1, Kern River Summary of Impacts. Our comments on data presented in this table are listed below.

1. Surface Fault Rupture. As previously indicated, Mojave has conducted studies of Quaternary faults crossed by each of the pipelines, and presented the data in the FERC certification hearings. The results for the Kern River Mainline and Wasatch Variation are presented in Exhibits MP-194 and 195. The number of faults listed under the parameter "surface fault rupture" should be changed to 37 for the Kern River proposed route.

2. Freshwater Biology. The number of crossings indicated for the Kern River Mainline (13) is not consistent with the data presented on pages 4-28 and 4-29 of Volume II of the FEIS, where 16 stream crossings are indicated as having significant impacts. The number presented should, thus, be changed to 16.

3. Acres of Riparian Habitat Affected. The number presented for the Kern River Mainline (98) is not consistent with the data presented in the FEIS. Specifically, on page 4-35 of Volume II, Kern River is indicated as affecting 141 acres of wetland/riparian vegetation. Table 1.4-1 should, therefore, indicate that 141 acres would be impacted.

4. Big Game Crucial or High Priority Habitat. The number of 1350 acres presented in this table for the Kern River Mainline is approximately 500 acres less than it should be, based on the data presented in the FEIS. The list of important habitats for game species is presented on pages 3-42 and 3-43 of Volume II of the FEIS. According to this table, crucial or high priority big game habitat is present at the following mileposts:

MP 24.6-33	8.4 miles
MP 49.5-50.0	0.5 miles
MP 68.5-70.7	2.2 miles
MP 73.9-79.6	5.7 miles
MP 85.8-89.2	3.4 miles
MP 89.5-98.2	8.7 miles
MP 99.9-100.9	1.0 miles
MP 136.4-137.5	1.1 miles
MP 140.3-147.8	7.5 miles
MP 148.1-166.1	18.0 miles
MP 169.8.172.5	2.7 miles
MP 172.6-186.2	13.6 miles
MP 191.2-196.0	4.8 miles
MP 208.0-228.0	17.0 miles
MP 233.2-235.2	2.0 miles

MP 262.9-269.8	6.9 miles
MP 278.1-279.4	1.3 miles
MP 282.0-295.5	13.5 miles
MP 310.3-317.5	7.2 miles
MP 344.6-362.4	17.8 miles
MP 376.3-381.8	5.5 miles
MP 390.8-393.5	2.7 miles
Total	151.5 miles

These mileposts represent the range within which one or more game species has designated crucial or high priority habitat. The total of 151.5 miles with a 100 foot-wide right-of-way would equal 1836 acres.

5. Big Game Fawning/Calving Area (Acres). The acreage for this parameter is understated for both the Kern River Mainline and the West Strawberry Variation, when compared to mileposts of habitat presented in the FEIR/S. Mileposts of critical fawning and calving areas on the mainline are presented on pages 3-42 and 3-43 of Volume II. The following mileposts are indicated as having critical fawning or calving habitat:

MP 163.3-164.2	0.9 miles
MP 167.5-168.9	1.4 miles
MP 366.0-367.4	1.4 miles
Total	3.7 miles

The total distance of 3.7 miles with a 100 foot-wide ROW would equal 45 acres. Thus, the 0 in the first column should be replaced by a 45.

Mileposts of critical wildlife habitat on the West Strawberry Variation are presented on Page 3-120 of the FEIS. Elk critical calving areas are present in five areas:

MP 5.4-6.3	0.9 miles
MP 7.6-8.6	1.0 miles
MP 13.0-14.9	1.9 miles
MP 18.0-20.4	2.4 miles
MP 42.1-43.3	1.2 miles
Total	7.4 miles

The total of 7.4 miles would equal 90 acres with a 100 foot-wide ROW. Therefore, the 50 in this column in Table 1.4-1 of the DSEIS should be replaced with "90".

6. San Joaquin Kit Fox. The number of 333 acres presented for the Kern River Mainline is not consistent with the data presented in the FEIS technical analysis. At the top of page 4-49 of Volume II, the analysis indicates that six miles of the Kern River Mainline would cross San Joaquin kit fox habitat. Although stated to be marginal, this same habitat was counted for Mojave as being kit fox habitat in Table 1.2-1. On the same page, the FEIS indicates that five miles of habitat would be traversed on the Kern River Lateral. On page 3-50, the Taft Lateral is stated to cross 24 miles of San Joaquin kit fox habitat. The total of 35 miles would equal 424 acres with a 100 foot-wide ROW.

Page 1-48, first full paragraph. As previously indicated for Table 1.4-1, the number of sensitive stream crossings is 16.

Page 1-48, second paragraph. The number of acres of wetland/riparian vegetation should be indicated as 141, as previously indicated in comments on Table 1.4-1.

Page 1-48, fifth paragraph. The number of acres of big game crucial and high priority habitat should be indicated as 1836 acres, to be consistent with the Volume II analysis.

Page 1-52, seventh paragraph. This summary of system safety and reliability fails to mention the significant risks due to geologic hazards described in the FEIS II analysis of safety on this route, at Volume II, page 4-98.

Page 1-52, last paragraph. The discussion of impacts at Mueller Park is not consistent with discussions of impacts at recreation areas crossed by Mojave (pages 1-8 and 1-9). High significant visual impacts have been predicted for the Mueller Park area and could affect recreation after construction. Significant impacts to freshwater biology have been predicted at Mill Creek. ORV impacts would be significant for both the

Wasatch Variation and the proposed route, because of violation of Forest Service ROW standards; however, there could be particularly high impacts on the Wasatch Variation.

Page 1-53, first paragraph. Only one of the two land use conflicts enumerated in Table 1.4-1 for the Wasatch Variation route is identified here. While it can be assumed that the second impact refers to the "potential short- and long-term impacts . . . in Salt Lake Valley to residential uses," as stated on page 4-111 of Volume II of the FEIS, this is not clear from the narrative. Since the FEIS, as prepared, an additional significant land use conflict has been identified on the Wasatch Variation; this is the crossing of the proposed additional runway at the Salt Lake Airport. Both the pipeline and the electric transmission lines it would follow would require re-routing to avoid this conflict. This conflict should be discussed in the DSEIS.

Page 1-53, fourth paragraph. Testimony presented by Mojave in the FERC certification hearings indicated that there were additional areas of visual impacts present on the Wasatch Variation which had not been considered in the FEIS. See Exhibits MP-183 and MP-186.

Page 1-55, first complete paragraph. The comparison of impacts to fawning/calving habitat should be modified by using the corrected numbers presented herein.

Pages 1-64 to 1-67, Table 1.4-2 - Kern River Best Case.

1. Surface Fault Rupture. The number of Quaternary faults on the Kern River proposed route is 37, as indicated in comments on Table 1.4-1. Based on the same analysis, the number of Quaternary faults on the Kern River route incorporating the Wasatch and North Las Vegas Variations is 34.

2. Freshwater Biology. The FEIS data on pages 4-28 and 4-29 indicates that 16 significant stream crossings would be made on the Kern River proposed route, not the 13 shown.

3. Acres of Riparian Habitat Crossed. As previously indicated, the acres of wetland/riparian vegetation affected on the Kern River proposed route is 141, as supported by the FEIS analysis on page 4-35 of Volume II. The amount present on the "best case" Kern River route is 186. This number is calculated from the FEIS as follows:

Kern River Mainline (MP 0-73) = 12.3 acres (0.2 acres in Wyoming Basin + 12.1 acres at MP 48-49, FEIS, Vol II, pages 3-35 and 4-34)

Wasatch Variation = 123.3 acres (Volume II, page 4-107)

Kern River Mainline (MP 204-438) = 24.2 acres (MP 250 and 404-405, Volume II, pages 3-36 and 4-34)

North Las Vegas Variation = 12.1 (Volume II, page 4-148)

Kern River Mainline (MP 534-end) = 13.9 (Volume II, pages 4-34 and 4-35).

Total 185.8

4. Big Game Fawning/Calving Areas. As previously indicated, the FEIS analysis on pages 3-43 and 3-44 of Volume II supports a number of 45 acres, rather than 0. The number for the Kern River "best case" should also be more than 0. According to the analysis on page 3-43, 1.4 miles of mule deer critical fawning area would be crossed at MP 366.0-367.4. This would form an area of 17 acres with a 100 foot-wide ROW.

5. San Joaquin Kit Fox. As previously indicated, the data presented in the FEIS supports 424 acres as being impacted, rather than 333. This would apply to both the Kern River proposed and environmentally preferred routes.

Pages 1-61, last paragraph. The fifth-sixth lines indicate that this variation would cross less crucial or high priority big game habitat than the corresponding portion of the mainline. This is not consistent with the data presented in Table 1.4-1.

Page 1-63, last paragraph. While this discussion correctly indicates that the land use conflict with Uinta National Forest would be resolved using the Wasatch Variation, it should also indicate that a similar conflict with the Wasatch-Cache National Forest would be created. Some additional disadvantages of the Wasatch Variation not mentioned in this comparison, but described on page 1-51, would be crossing of the Wasatch Fault in a more developed area, and crossing of municipal watersheds.

Page 1-68, third paragraph. The relative ranking of the Wasatch Variation versus the Mainline for steep slopes is opposite what is presented here, if the slopes on the actual mapped route are considered. The Wasatch Variation, although crossing a shorter distance of mountainous terrain, actually crosses steeper slopes than the proposed route.

Page 1-68, last paragraph. Information presented by Mojave in the FERC certification hearings has shown that neither the Henderson Variation nor the corresponding portion of the Kern River Mainline is currently acceptable to the City of Henderson.

C. WyCal Comparisons

MO-90 Table 1.5-1 - WyCal Summary of Impacts

1. Surface Fault Rupture. Mojave's analysis of fault crossings on the WyCal route generally supports the numbers provided in this table, but are somewhat different. For the WyCal proposed route, Mojave's evaluation indicated 36 Quaternary fault crossings, rather than 35. For the Wasatch Variation, our analysis indicates two fault crossings rather than one. The support for these values are provided in the workpapers for Exhibits 193-197 in the FERC certification hearings. Mojave's analysis of the Wasatch Variation alternatives indicates that there are multiple splays of the Wasatch Fault present on several of the routes, as indicated in Section III.

2. Miles of Landslide Potential. WyCal would have the same number of miles of slope instability as Kern River, (60). The basis for this conclusion is presented in the workpapers for Exhibit MP-200 in the FERC certification hearings. Concerning slope instability on the Bountiful Alternatives, Mojave has presented detailed mileage of known areas of slope instability in Section

MO-91 (cont.)

MO-90 There is insufficient information for staff to fully evaluate this assertion. The staff agrees that two faults are present on the Wasatch Variation (the Wasatch and the West Valley Faults).

MO-91 These data greatly differ from that which the staff and its consultants have independently gathered. According to our data, WyCal would have eight fewer miles of potential slope instability than would Kern River (because the California portion of Kern River would be avoided). Using either data, the relative ranking would remain the same.

MO-91 (cont.) III. The length of areas of potential slope instability would be approximately 17 miles on the Wasatch Variation, 17 on the Bountiful Boulevard Alternative, 12 on the Pages Lane Alternative, and 16 on the Bountiful Peak Alternative.

MO-92 3. Miles of Slope Greater than 30%. During the FERC certification hearings, Mojave presented testimony and workpapers indicating that the WyCal proposed route would cross 10.8 miles of slope over 30% (Exhibit MP-200). The analysis used the same procedures as previously indicated for Mojave and Kern River. According to this same analysis, the North Las Vegas Variation with the WyCal extension would have no miles with slopes over 30%. Mojave's previous comments on Table 1.4-1, indicate that the Wasatch Variation would have 10.5 miles over 30%. We have also calculated miles of steep slopes for each of the Bountiful Alternatives. The Wasatch Variation incorporating the Bountiful Peak Alternatives would have 9.7 miles of steep slopes, about 7.8 miles with the Bountiful Boulevard Alternative and 7.0 miles with the Pages Lane Alternative.

MO-92 Thank you for your comment. We note that the relative ranking remains unchanged.

MO-93 4. Perennial Stream Crossings. The 14 streams listed for the Bountiful Boulevard Alternative are not consistent with the information provided on page 4-44 of Volume VI (13 perennial stream crossings in Middle Rocky Mountains plus three in Basin and Range equals 16).

MO-94 5. Moderate/High Significance Perennial Stream Crossings. Based on Mojave's comments presented in Section IIIA of this letter, the WyCal proposed route would have an additional 4 moderate-high significance stream crossings.

The Bountiful Boulevard Alternative would have 12 moderate-high significance stream crossings, based on the information presented on page 3-22 of Volume VI and 3-100 of Volume II (two on actual alternative, 10 on remainder of Wasatch Variation).

6. Freshwater Biology. As previously indicated, the number of sensitive streams on the Kern River proposed route is 16. The number on the WyCal proposed route would be identical.

MO-95 7. As indicated in Mojave's previous comments in Section IIIA, the DSEIS has understated the amount of wetlands and riparian vegetation that would be affected on the WyCal route. A total of 254 acres of wetland/ri-

MO-93 Comment accepted, see change in Vol. III Supplement, Table 1.5-1.

MO-94 See response to MO-11. Also, note change to Table 1.5-1 in the Vol. III Supplement.

MO-95 As indicated previously, the same methodology was used to determine the amount of wetland/riparian denuded by the WyCal proposal as used for the other proposals as presented in the FEIR/S. Therefore, we believe the cumulative area of disturbance in wetland/riparian cover type to be accurate and consistently determined within the scope and degree of resolution presented in the FEIR/S.

MO-95 (cont.)	parian vegetation would be present within the WyCal construction ROW.		
MO-96	8. Wildlife. The new portion of the WyCal route in Wyoming would cross 14.4 miles of significant big game habitat or 174 acres; the portion of the Kern River route in Utah would cross 1731 acres for a total of 1905 acres.	MO-96	See response MO-57.
MO-97	9. Vacancy Rates of Temporary Housing Less Than 5%. The number provided in this table is not consistent with the numbers provided for the Kern River proposed route in Table 1.4-1.	MO-97	There are no numbers provided for this category in Table 1.5-1.
MO-98	10. Local Tax Base Change Greater Than 10%. The "seven counties" noted for the Wasatch Variation, Bountiful Alternatives and North Las Vegas Variation is incorrect since these routes do not even cross this many counties individually.	MO-98	Comment accepted, see change for this category in Vol. III Supplement, Table 1.5-1.
MO-99	11. Visual Resources. Acres of high impacts should be increased by eight to correspond to the area of high impacts in Duncomb Hollow identified in Section IIIA. The total should be 279, including 0.7 miles (8 acres) on the new WyCal route; 18.4 miles (223 acres) on the Kern River route (see page 4-76 of FEIS, Vol. III); and four miles (48 acres) on the East Las Vegas Variation (see page 4-179 of Vol. II).	MO-99	See response to MO-23.

MO-100	Page 1-71, fourth complete paragraph. As previously indicated in comments on Table 1.5-1, Mojave does not agree with the numbers presented for slope instability and miles of steep slopes.	MO-100	See response to MO-96.
MO-101	Page 1-76, third paragraph. As previously indicated, the number of significantly affected streams is 16.	MO-101	See change to Vol. III Supplement, Section 1.5.1 and Table 1.5-1.
MO-102	Page 1-76, fourth paragraph. The number of acres of wetland/riparian vegetation should be increased to 254 acres, as indicated in comments in Section IIIA.	MO-102	See response to MO-95.
MO-103	Page 1-76, fifth paragraph. The summary of impacts should indicate that four Nevada endangered species may occur along the route in Nevada and could be significantly impacted.	MO-103	See response to MO-81.
MO-104	Page 1-77, first paragraph. The number of acres of big game habitat should be changed to 1905 acres, as indicated in our comments on Table 1.5-1.	MO-104	See response to MO-96.
MO-105	Page 1-79, third paragraph. The acreage of visual impacts should be increased as indicated in Mojave's comments on Table 1.5-1, to correct a small error in the original number, and to add Duncomb Hollow.	MO-105	See response to MO-99.
MO-106	Page 1-79, Section 1.5.2. One general comment is required here. It would have been far more useful to the reader to have a direct comparison of the Bountiful	MO-106	Thank you for your perspective.

MO-106 (cont) Alternatives against each other and against the portion of the Wasatch Variation from which they would diverge. This triple comparison of modified Wasatch Variations against the corresponding portion of the Mainline appears to miss the point and is difficult to evaluate.

Page 1-80, third paragraph. While Mojave does not agree with the numbers for miles of slope instability or steep slopes, the relative ranking is correct.

MO-107 Page 1-80, fourth paragraph. As indicated in comments on Table 1.5-1, the number of perennial stream crossings is stated to be 16 on the Bountiful Boulevard Alternative, in Volume VI. The number of streams with moderate to high significance would be the same as on the Wasatch Variation, as also indicated in our comment on Table 1.5-1.

MO-108 Page 1-81, third paragraph. The following information should be added. Increased access to ORV's would be confined to the new 0.3 miles of new route connecting the Mountain Fuels ROW and Bountiful Boulevard; this would be less than on the Wasatch Variation. However, this small section might be particularly attractive for potential ORV use because of its immediate proximity to the city.

MO-107 **Comment accepted, see change to Vol. III Supplement, Section 1.5.2.1 and Table 1.5-1.**

MO-108 **See response to MO-106.**

MO-109	Page 1-81, fourth paragraphs. The Bountiful Boulevard would also be adjacent to a golf course and might cause temporary impacts during construction.	MO-109	Comment accepted, see change in Vol. III Supplement, Section 1.5.2.1.
MO-110	Page 1-82, third paragraph. As indicated in comments in Section IIIA, the Bountiful Boulevard Alternative would cause significant visual impacts from about 0.3 miles of route.	MO-110	See response to MO-108.
MO-111	Page 1-82, fourth paragraph. The possibility of rupture or damage induced by construction equipment use relating to maintenance of other utilities in the roadbed should be mentioned.	MO-111	See response to MO-109.
MO-112	Page 1-82, eighth paragraph. This alternative would not reduce the number of perennial streams, according to the data presented in Volume VI.	MO-112	Comment accepted, see change in Vol. III Supplement, Section 1.5.2.1.1.
MO-113	Page 1-83, second full paragraph. As previously indicated, a small area of high significant visual impacts would occur on this alternative.	MO-113	See response to MO-110.
MO-114	Page 1-86, Section 1.5.2.2.1. A brief discussion of the relative advantages and disadvantages of the Porter Lane Alternative should be added to this section.	MO-114	This option was not accorded separate status for analytical purposes. See Vol. VI, Section 2.3.1.2.
MO-115	Page 1-90, first partial paragraph. Mention should be made that this route would probably also violate U.S. Forest Service planning standards and guide-	MO-115	Text stands as adequate.

MO-115 (cont.)	lines for visual impacts, soil erosion, and ROW classifications, and possibly new resources.		
MO-116	Page 1-90, first full paragraph. According to the analysis presented in Section IIIB, this alternative would affect several homes, as well as other buildings. However, it would impact far fewer buildings than the other Bountiful Alternatives.	MO-116	Text stands as adequate.
MO-117	Page 1-90, second paragraph. The statement that "not high sensitivity cultural resource segments are present in either the alternative or the replaced portion of the route" is misleading, since the DSEIS could not compare impacts due to lack of data.	MO-117	The cited quote is a statement of fact. Text stands as adequate.
MO-118	Page 1-90, fourth paragraph. Additional high significance visual impacts would occur for several miles in Retention areas along Skyline Drive, and on the long steep slope conditions from Bountiful Peak to Centerville, as indicated in Section IIIB.	MO-118	See response to FA2-9. No additional areas of high significance have been identified.
MO-119	Page 1-90, fifth paragraph. The statement that this alternative would eliminate conflicts with West Valley City is misleading; none of the Bountiful Alternatives, nor the original Wasatch Variation, would eliminate this conflict. The DSEIS has not evaluated this conflict, nor any resolution of it.	MO-119	The paragraph specifically says that these alternatives would not alleviate problems with West Valley City.

MO-120	Page 1-91, fourth paragraph. The basis and rationale for the statement that the U.S. Forest Service considers the portion of the National Forest crossed by this alternative to be more significant than the portion crossed by the corresponding portion of the Wasatch Variation should be provided.	MO-120	The information sought by comment is fully presented in the appropriate sections of Vol. VI.
MO-121	Page 1-91, fifth paragraph. As previously noted, none of the Bountiful Alternatives would have any effect on the route through West Valley City. If West Valley City is an issue, then alternatives should have also been developed for that portion of the route.	MO-121	See response to MO-119.
MO-122	Page 1-92, first full paragraph. The statement that impacts to plant species of special concern would be identical on the two routes is incorrect; the WyCal North Las Vegas Variation would cross more miles of potential habitat for the four Nevada endangered plant species than the proposed WyCal route.	MO-122	See response to MO-103.
MO-123	Page 1-92, last paragraph. Evidence should be provided to support the contention that WyCal's impacts to the Mint 400 and Frontier 500 ORV racing events are considered short-term, and not sufficiently important to list in Table 1.5-1, while Mojave's impacts to the Parker 400 race are considered significant (in Supplemental Volume III, but not in Vol. I of the FEIS).	MO-123	Comment partially accepted, see change to the Vol. III Supplement, Sections 1.5.3 and 1.6, Tables 1.5-1 and 1.6-1, and Vol. VI, Table S-1. Also, see response to MO-76.

The effects of increased ORV access in a presently roadless area should be considered in this comparison.

MO-124 Page 1-94, first paragraph. As indicated in Section IIIB, some of the Bountiful Alternatives cross several splays of the Wasatch Fault, and, thus, the statement that impacts are identical on each is not correct.

MO-125 Page 1-94, third paragraph. There is not any necessary conflict between the natural environment and the social environment. The NEPA process correctly involves assessment of impacts to both, as part of the overall environment which projects may affect. In this comparison, it is clear that each of the Alternatives has features and environmental impacts which make it environmentally unacceptable. A reevaluation regarding which of these Alternatives is better does not have to be forced out of the analysis when the data do not support a conclusion that any is acceptable; the FEIS has already identified environmentally superior systems which would resolve all of these problems, the four Mojave Systems evaluated in the FEIS.

Page 1-94, fourth paragraph. The selection of the original Wasatch Variation as the preferred route

MO-124 See response to MO-113.

MO-125 See response to MO-110.

MO-125 (cont.) through this area is not consistent with the evidence regarding its significant adverse impacts presented in the FEIS. During the FERC certification hearings, Mojave presented important testimony explaining how the Volume III conclusions that the Wasatch Variation is acceptable does not correspond to the analysis of significant impacts presented in Volume II of the FEIS (See Exhibits MP-52, MP-190, MP-199). Mojave is not alone in reaching this conclusion; the comments presented by the City of Bountiful and other groups at the DSEIS public meetings in Salt Lake City in August, 1988, indicate continued major opposition to this route. The fact that WyCal has failed to identify an acceptable route through this area does not require the FERC staff to approve an unacceptable route. The Wasatch Variation may be the best of a group of environmentally poor routes, but it is still environmentally unacceptable.

D. INTERSTATE SYSTEMS COMPARISONS

MO-126 Pages 1-97 to 1-100, Table 1.6-1 Interstate Systems Comparisons. This table primarily summarizes data which have been previously presented in other portions of Supplemental Volume III. For the Mojave System A route Mojave has previously (Section VA) indicated that certain changes should be made to the data presented. A

MO-126 See response to MO-89.

MO-126 (cont.) number of these comments are also relevant to the data presented in Table 1.6-1 for Mojave System C with Alternative B. Mojave also has commented on the data presented for the Kern River proposed route in Table 1.4-1. Similar requirements for changes have also been identified in comments on Table 1.4-2 (Section VB of this letter).

Mojave's analysis of the WyCal proposed route in Section VC of this letter also identified some necessary changes for surface fault rupture, miles of landslide potential, miles of steep slopes, moderate/high significance stream crossings, freshwater biology, wetland/riparian vegetation, acres of big game crucial or high priority habitat, big game fawning/calving habitat, vacancy rates for temporary housing, and visual resources.

Additional comments on Table 1.6-1 are listed below.

MO-127 1. Geology. As previously indicated, Mojave has conducted its own analysis of geological hazards, indicating that the "best case" WyCal route would cross 34 Quaternary faults, 26 miles of unstable slopes, and 16.1 miles of slopes over 30%.

MO-127 See responses MO-90, MO-91, and MO-92.

The remaining comments are based largely on Mojave's own analyses, which the staff has frequently rejected for reasons presented in the previous 124 responses. In those few instances where the staff has accepted the comment, changes have been made in the appropriate sections of the document, including Section 1.6.

MO-128 2. Perennial Stream Crossings. Based on comments in Section IIIA, several additional perennial stream crossings would be made on the WyCal "best case" system. Mojave's evaluation indicated 43 total crossings.

MO-129 3. Riparian/Wetland Vegetation. Based on Mojave's comments provided in Section IIIA, more acres of wetland/riparian vegetation would be impacted than presented in Table 1.6-1 for the WyCal "best case" system. Mojave's analysis shows a total of 317 acres, including 72.7 on the new portion of the WyCal route in Wyoming (see Section IIIA), 12.1 acres on the WyCal Mainline from KR MP 45-73 (FEIS, Vol III page 35), 123.3 on the Wasatch Variation (Vol II, page 4-105), 24.2 on the WyCal Mainline from KR MP 204-438 (Vol II, page 3-36), 26.4 acres on the North Las Vegas Variation (Vol VI, page 4-69), 6.1 on the Transwestern Supply Lateral (Mojave Transfer Line, Vol I, page 4-36), and 52.5 on the WyCal western leg (Mojave route and Kern Lateral) (Vol I, page 4-30).

MO-130 4. Acres of California Classified Plant Habitat affected. An explanation should be given indicating why endangered and threatened species listed by states other than California are not used in this comparison.

MO-128 See response to MO-11.

MO-129 See response to MO-20 and MO-95.

MO-130 See response to MO-75.

MO-131 5. Approximately 350 additional acres of big game crucial and high priority habitat would be crossed than indicated on the WyCal route using the Wasatch and North Las Vegas routes. The correct number can be obtained as follows:

New WyCal route in Wyoming	174.5 acres	(Vol VI, p. 4-22)
KR MP 45-73	32.7 acres	(Vol II, p. 3-42)
Wasatch Variation	522.2 acres	(Vol II, p. 3-106)
KR Mainline MP 204-438	895.7 acres	(Vol II, p. 3-106)
Total	1625.1 acres	

No additional acreage of crucial or high priority big game habitat would be present on the remainder of the route, according to the DSEIS and FEIS.

MO-131 See response to MO-89. These acreage figures are based upon changes Mojave has to the Kern River wildlife figures.

MO-132 6. Impacts to the Yuma clapper rail, bald eagle, and peregrine falcon would be less for the WyCal "best case" system, as detailed in our previous comments concerning Mojave's route. Impacted acreage of San Joaquin kit fox habitat would also be less than indicated; as detailed in our previous comments.

MO-132 See response to MO-89.

MO-133 7. Local Tax Base Changes. For Mojave System A, the fourth paragraph of page 1-8 of this document (Supplemental Vol III) indicates that this number should be five rather than one. The numbers for the Kern River and WyCal "best case" routes should be six, as shown on

MO-133 Comment accepted, see changes to Vol. III Supplement, Section 1.6 and Table 1.6-1.

MO-133 (cont.)	page 4-60 of Vol. II of the FEIS. Both the Kern River and WyCal "best case" routes would pass through Beaver, Iron, Juab, Millard, and Washington counties in Utah, and Lincoln County in Nevada. They would not pass through Wasatch County, which would only be crossed on the proposed routes of these projects.		
MO-134	8. Additional visual impacts would occur on the Wasatch Variation portion of the WyCal "best case" route, as we have previously indicated.	MO-134	Mojave has not mentioned visual impacts concerning the Wasatch Variation prior to this point.
MO-135	Page 1-96, fourth complete paragraph. As indicated, Mojave does not agree with the DSEIS analysis of geologic hazards. Mojave's analysis indicates that the Mojave systems would cross substantially fewer miles of unstable slopes and steep slopes, and fewer faults. WyCal would cross the same miles of unstable slopes as Kern River, but would have somewhat more miles of steep slopes.	MO-135	See response to MO-91.
MO-136	Page 1-101, third paragraph. The comparison of impacts to wetland/riparian vegetation in the last sentence should be modified by the addition of the acreages we have previously identified. However, the relative ranking would not change.	MO-136	See response to MO-95.
MO-137	Page 1-101, fifth paragraph. Mojave has previously commented on sensitive plant species for the Moja-	MO-137	See response to MO-75 and 89.

MO-137 (cont.) ve, Kern River, and WyCal projects. Mojave and WyCal would only pass through potential habitat of two California listed species. Nevada endangered species should be evaluated on the Kern River and WyCal routes. Potential habitat has been only generally defined for all systems, and probably overstates potential impacts.

MO-138 Page 1-101, last paragraph, page 1-102, first incomplete paragraph. Impacts to wildlife on the Mojave systems would be less than indicated. Impacts to big game habitat on Kern River and WyCal would be greater than indicated.

MO-139 Page 1-102, first full paragraph. The Comparison of impacts to threatened and endangered species completed by adding miles of Class I and II impacts (significant) to Class III impacts (insignificant) leads to erroneous conclusions. Some of the impacts to potential habitat have been identified as significant in the FEIS and DSEIS, while only nonsignificant impacts have been identified for other species. Mojave has presented testimony in the FERC certification hearings showing that impacts to threatened and endangered species on the Kern River and Mojave routes would be generally similar, using data taken from the FEIS and Biological Assessments (Exhibit MP-83, pages 18-22). The impacts of WyCal would

MO-138 See response to MO-89.

MO-139 The final determination of impacts to threatened and endangered species will be determined following certification when Mitigation Measures 81, 82, 85, and 89 have been completed. The data presented in Table 1.6-1 provides a worst case scenario and allows for comparisons to be made.

MO-139 (cont.)	also be generally similar. All projects would have nonsignificant impacts after mitigation.		
MO-140	Page 1-102, second full paragraph. The numbers of counties with positive impacts are incorrect, as previously noted.	MO-140	See response to MO-133.
MO-141	Page 1-102, second complete paragraph. The statement that no significant impacts regarding traffic would occur on any of the routes is not correct. The analysis of Kern River and WyCal impacts clearly indicates that they will pass through many miles of roadless areas, that they will violate Forest Service ROS classifications controlling vehicle access, and that they may encourage increased ORV use of those areas. The analysis also indicates that new access roads will probably be required and may have significant adverse impacts to a number of resources.	MO-141	Staff disagrees with this analysis.
MO-142	Page 1-102, third paragraph. This comparison also combines nonsignificant and significant conflicts to arrive at a meaningless conclusion. According to the impact significance criteria presented in the FEIS on page 4-58 of Volume I, significant impacts to recreation would only occur if portions of a developed recreational area were removed from further use, or if a pipeline corridor enhanced and encouraged off-road vehicle use	MO-142	Staff disagrees with this simplified analysis.

MO-142 (cont.) where it had not previously occurred or was specifically prohibited. The first criterion may be met by Off-road Vehicle Area 13 on the WyCal North Las Vegas route; the second criterion is met by Kern River's and WyCal's conflicts with roadless area management in the Wasatch-Cache National Forest. Other recreational conflicts included in this comparison may be short-term impacts, but are not significant according to the FEIS criteria.

MO-143 Page 1-102, fourth paragraph. As with recreation, merely counting numbers of land use conflicts leads to erroneous conclusions. Some conflicts may be easily resolved by mitigations provided in the FEIS, as is true for the land use conflicts present on the Mojave route. In fact, Mojave has already revised its proposed route to incorporate those specific recommendations, a fact recognized on page 3-6 of Supplemental Volume III. For other conflicts, such as the Wasatch Variation crossing of the Wasatch-Cache National Forest, no specific recommended mitigation is available. The statement on page 1-53 that the Forest Service is willing to work with Kern River "with the goal of defining a route across the Wasatch-Cache" only serves to point out the unacceptability of the current route.

MO-143 Staff agrees that simply counting land use conflicts results in erroneous conclusions, that is why discussions of each land use conflict were undertaken in the appropriate pipeline company section. It must be remembered that Section 1.6 represents a comparison and summary of impacts.

MO-144 Page 1-103, second complete paragraph. According to the FEIS/DSEIS analysis, both WyCal and Kern River will have significant residual adverse visual impacts on portions of their route.

MO-145 Page 1-103, third paragraph. This comparison of safety concerns fails to mention concerns related to slope instability that have been previously described for the Kern River and WyCal routes.

MO-146 Page 1-103, last paragraph. WyCal's commitment to mitigation is no greater than Mojave's. See Section IV of this comment letter. This paragraph appears to have been developed specifically to justify granting of a certificate to WyCal prior to the Commission's decision on Mojave and Kern River.

Respectfully submitted,

Lynn R. Coleman
Stephen E. McGregor
Douglas E. Nordlinger
Carol Clayton
John S.L. Katz
Skadden, Arps, Slate,
  Meagher & Flom
1440 New York Avenue, N.W.
Washington, D.C. 20005
(202) 371-7000

Counsel for
Mojave Pipeline Company

September 12, 1988

MO-144 Staff agrees; however, the section must be viewed in conjunction with the detailed data presented for each proposal in Volume III as well as the data in the FEIR/S, Volumes I and II, and Volume VI.

MO-145 See response to MO-144.

MO-146 See response to MO-4.

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the service lists compiled by the Secretary and Presiding Judge in these proceedings.

Dated at Washington, D.C. this 12th day of September, 1988.

John S.L. Katz
Skadden, Arps, Slate,
Meagher & Flom
1440 New York Avenue, N.W.
Washington, D.C. 20005
(202) 371-7000

Kern River Gas Transmission Co. Comments

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION
AND
CALIFORNIA STATE LANDS COMMISSION

Wyoming-California Pipeline Company	Docket Nos. CP87-479-000 and CP87-480-000
Mojave Pipeline Company, *et al.*	Docket Nos. CP85-437-000, *et al.*
Kern River Gas Transmission Company, *et al.*	Docket No. CP85-552-000, *et al.*

COMMENTS OF KERN RIVER GAS TRANSMISSION COMPANY ON THE DRAFT SUPPLEMENT TO THE MOJAVE-KERN RIVER -EL DORADO FINAL ENVIRONMENTAL IMPACT REPORT/STATEMENT

September 12, 1988

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION
AND
CALIFORNIA STATE LANDS COMMISSION

Wyoming-California Pipeline Company	)	Docket Nos. CP87-479-000 and CP87-480-000
Mojave Pipeline Company, *et al*.	)	Docket Nos. CP85-437-000, *et al*.
Kern River Gas Transmission Company, *et al*.	)	Docket No. CP85-552-000, *et al*.

COMMENTS OF KERN RIVER GAS TRANSMISSION COMPANY ON THE DRAFT SUPPLEMENT TO THE MOJAVE-KERN RIVER -EL DORADO FINAL ENVIRONMENTAL IMPACT REPORT/STATEMENT

September 12, 1988

Pursuant to the Federal Energy Regulatory Commission's notice issued July 25, 1988, Kern River Gas Transmission Company (Kern River) submits its comments on the joint Draft Supplement (WyCal Supplement) to the Mojave-Kern River-El Dorado Final Environmental Impact Report/Statement (FEIR/S). 1/

The purpose of these comments is to assist Staff 2/ in improving its final WyCal Supplement. For

---

1/ As the WyCal Supplement points out (page 2-4), Wyoming-California Pipeline Company (WyCal) has copied in major part the exact same route as proposed by Kern River in Wyoming, Utah and Nevada and has copied the route proposed by Mojave Pipeline Company (Mojave) in Arizona and California. Kern River previously submitted extensive comments concerning these routes in its comments filed April 24, 1987, on the Draft Environmental Impact Report/Statement (DEIR/S). Kern River incorporates those comments by reference.

2/ References herein to Staff means the Staff of the Federal Energy Regulatory Commission (FERC) and the Staff of the California State Lands Commission (CSLC).

example, the Draft requests (Volume III Supplement, page 1-95) comments from Kern River and others on the economic, environmental and engineering aspects of the alternatives to the Wasatch Variation. We have included information in these comments to assist Staff on these and other matters.

For ease of reference, Kern River's comments have been organized in the same format as the Draft WyCal Supplement.

Kern River's comments regarding faults and slope stability and their implications for system safety and reliability are supported by Appendix I, a report prepared for Kern River by Mr. Jeffrey Keaton, an engineering geologist formerly with Earth Store, a division of Dames & Moore and now with Sergent, Hauskins & Beckwith of Salt Lake City. Attached as Appendix J to these comments are affidavits of the professional personnel who prepared them.

Volume VI

Summary

KR-1 Table S-1 (pp. S-6 to S-9)

There are several inconsistencies between entries concerning the preferred Kern River system (with Wasatch North Las Vegas Variations) on Table S-1 of the Draft Supplement and corresponding entries for the same system in the corrected Table 1.5-1 that appears in the errata to the Final Mojave/Kern River EIS, Exhibit CS-25A in the record of the Mojave proceeding. These inconsistencies should be resolved in the Final Supplement; they are set out in the following table.

ITEM	Table 1.5-1 FEIS/ERRATA	Table S-1 DRAFT SUPPLEMENT
Surface Water		
Number of Stream Crossings	143	138
Intermittent Stream Crossings	106	102
Perennial Stream Crossings	37	36
Terrestrial Biology Vegetation		
Total Acres of Native Vegetation Temporarily Disturbed	8,221	8,736
Acres of Woody Vegetation Kept Cleared for the Life of the Project	2,719	3,028
Wildlife		
Acres of Potential Threatened or Endangered Animal Habitat	8,421	8,541
San Joaquin Kit Fox	333	533

KR-1 The numbers in the Draft Supplement are correct and update any previous corrections, with the exception of the Wildlife category which contained a typographical error. Change has been made in that category.

KR-1 (cont.)

Cultural Resources		
High Sensitivity Segments	10	9
Visual Resources		
Acres of High Visual Impacts	290	236

S.4. Environmental Staff Conclusions

KR-2 On pages s-20 and s-22, Tables S-7 and S-8, there is an inconsistency in comparing significant adverse impacts on Kern River and WyCal. Under the discipline of Surface Water, the supplement states:

> "Significant impacts caused by increased sediment loading could occur particularly in steep terrain in the Wasatch and Tehachapi Mountains."

The WyCal DEIS states that WyCal has "no" residual significant impact even though WyCal would cross more streams and more moderate/high significance perennial streams than Kern River. By comparison, Kern River residual significant impact is stated as a "yes". Kern River residual significant impact should be changed to "no".

KR-3 The Draft states at page s-25 that Kern River and WyCal would "cross sensitive environmental areas, cross one of those areas in a location which will be difficult if not impossible to construct and maintain without long-term environmental impact." This same statement was made in the Kern River Draft and commented on. Staff subsequently

KR-2 Comment accepted. WyCal's rating has been changed from "no" to "yes".

KR-3 Comment accepted. See Summary Section of Vol. VI.

KR-3 (cont.) reworded the statement at pages 3-2 and 3-3 of Volume III of the FEIR/S. This statement should be corrected.

1.0 Introduction

KR-4 The Draft states at page 1-5 that "contracts to date do not exist." Kern River has executed a contract with Chevron and has executed letters of intent with other shippers.

1.3.5 Other Permitting Agencies

KR-5 This section discusses at page 1-16 nonconformance with the California Desert Plan of a portion of the route in the Mojave Desert. The statement is made that: "Due to lack of conformance by Mojave, the plan may have to be amended to allow approval." This statement should also include WyCal.

KR-4 Comment accepted, see Vol. VI, Introduction.

KR-5 Comment accepted, see Vol. VI, Section 1.3.5.

KR-6 Table 1.2-3 Key County and Local Authorizing Actions

This Table at pages 1-23, 1-24 listing local agencies requiring permits/ approvals fails to include those entities affected by the Wasatch Variation, i.e., Davis County, Salt Lake County,, Salt Lake City, West Valley City, etc.

1.6 EPA Letter of Comment

KR-7 At pages 1-32 through 37, the Draft seeks to respond to the EPA letter of Comment. In responding to EPA, a distinction needs to be made between the Mojave/Kern River proceeding and the WyCal proceeding. In the Mojave/Kern River proceeding a full hearing has been held and a complete record has been made on need, supply and other issues normally underlying certificate cases. The Commission will have the full record available in determining whether certificates should be issued in the Mojave/Kern River proceeding. 3/ This is not true as to WyCal. The Commission has chosen not to take evidence or hold hearings on these issues as to WyCal.

3/ See Pacific Alaskan LNG Company, 9 FERC ¶ 61,334, at 61,709 (1979). See also Kern River's Motion to Reject Or, Alternatively, Answer to Southern California Gas Company's Supplement to Request for Action On Motion filed May 25, 1988 in Docket No. CP85-437, et al., which is attached hereto as Appendix A.

KR-6 The table only addresses the proposed route, not all the variations studied.

KR-7 The EPA letter does not address the WyCal project. EPA's comments to the WyCal Draft Supplement are responded to elsewhere in Vol. VII. The Introduction adequately addresses the difference between a traditional Section 7(c) proceeding versus the OC procedures. The two processes are not identical but a record (although different) is available to the Commission.

2.0 Description of Proposed Project

2.3 WyCal Route Variations

2.3.1 Wasatch Variation

2.3.1.1 Bountiful Boulevard Alternative

2.3.1.2 Pages Lane Alternative

2.3.1.3 Bountiful Peak Alternative

A discussion of the comparative cost, engineering and environmental aspects of the Wasatch Variation and above Alternatives is provided in Kern River's comment below on § 1.5.4.1 of the Volume III Draft Supplement.

3.0 Affected Environment

3.1.2 Geology

KR-8 The statement at pg. 3-1 is made that: "No significant geologic hazards or other major areas of geologic concern were identified..." on the WyCal route from MP 0-54. However, Table 3.2-1, pg. 3-2 identifies MP 38-54.5 as "very high relief, very steep slopes, rugged" with "large landslides, faults, avalanches."

Table 3.2-3 Fishery Value

KR-9 The state classification for fishery value is in error on this Table 3.2-3, on page 3-25. Information obtained from Utah Division of Wildlife Resources by Kern River indicate that at least Mill Creek and the Jordan River are not streams containing a high quality game fishery as indicated on the table. This information is contained in Kern River's responses to SoCal Phase II data request No. 17, PG & E Phase II data request No. 23(a), and Mojave Phase II data request No. 15, attached hereto as Appendix B. The handwritten notes on Appendix B were authored by personnel of the Utah Division of Wildlife Resources.

3.2.1.8.1 Traffic/Pages Lane

KR-10 This section at pg. 3-30 identifies streets crossed by the alternative and summarizes that all are

KR-8 Statement in text is correct. Table 3.1-1 represents general physiographic conditions.

KR-9 Mill Creek classification is correct as presented (h-cw-3). Kern River presents information for Mill Creek in Salt Lake County. The stream in question runs through Davis County, east of Bountiful. Classification for this stream was obtained from UDWR, Northern Region.

The Jordan River classification is incorrect as presented in Table 3.2-3, and is changed to L-WW-5. Information for this classification was obtained from UDWR, Central Region, Vertebrate Species of North Central Utah.

KR-10 Comment accepted, see Vol. VI, Section 3.2.1.8.1.

KR-10 (cont.) crossed north of the Bountiful City limits. The WyCal Supplement should point out that this alternative would also go through the City of Centerville, Utah.

3.2 WyCal Route Variations

3.2.1.12 Visual Resources

3.2.1.12.1 Bountiful Boulevard Alternative

3.2.1.12.3 Pages Lane Alternative

KR-11 The discussion at pages 3-38 and 3-39 of visual resources in relation to the Bountiful Boulevard and Pages Lane Alternatives discusses the existing Mountain Fuel Resources pipeline and describes the existing condition of this right-of-way (also see figure 3.2-1, pg. 3-40). Since Mountain Fuel's efforts, if any, at successful reclamation, revegetation and rehabilitation are unknown, it may be improper to compare the current proposals with Mountain Fuel. The Supplement should point out that Mountain Fuel's reclamation efforts are unknown; whereas the applicants have committed to implement stringent reclamation measures such as those contained in the FEIS/R.

3.2.2 North Las Vegas Variation

KR-12 The analysis corridor concept at page 3-41 utilized for the WyCal portion of the North Las Vegas Variation is inconsistent with the analysis corridor utilized on all other route studies. The Draft states that: "Since the California portion adjacent to the variation is within the East Mojave Scenic Area, the analysis corridor for the route extends from the border northeast one mile rather than one-half mile on each side

KR-11 The issue of Mountain Fuel's efforts is moot. The section describes the existing environment of the area.

KR-12 The analysis corridor utilized for the WyCal segment of the North Las Vegas Variation was done at the request of the California BLM which indicated that the WyCal line would not be permitted within the State of California in this area. Rather than study almost one-half of a corridor that would not be utilized, staff opted instead to extend the analysis corridor from the border northeast.

KR-12 (cont.) of the route." This rationale can result in inconsistent and inadequate assessment of environmental impact for route comparison purposes as well as misrepresent potential impacts to the adjacent lands to the West. Resources which may be impacted but not analyzed due to the analysis corridor boundary would include visual resources, cultural resources (zone of indirect impact), wildlife resources and recreational resources associated with the East Mojave Scenic Area. This is an inadequacy in the study of WyCal's North Las Vegas Variation.

3.2.2.2 Geology

The Draft states at pages 3-41 and 3-42 that:

> "The North Las Vegas Variation (NLV) is located in the Basin & Range Province near the state line separating Nevada and California. This area does not have any known active faults of Quaternary age or younger [Nakata, et al., 1982]."

KR-13 Although Nakata, et al., (1982) show no Quaternary faults along the state line, the Fault Map of California (Jennings, 1975) does show a Quaternary fault, named the State Line fault, which parallels the NLV variation for about six miles. Furthermore, a map by Clark and others (1984) showing late Quaternary faults in California shows a fault in the position of the State Line fault shown by Jennings (1975). Kern River's consultants contacted Dr. Nakata regarding the omission of the State Line fault on his compilation. As described in the Record of Telephone

KR-13 Comment accepted, see Vol. VI, Section 3.2.2.2.

KR-13 (cont.)

Conversation dated 24 August 1988, in Appendix C hereto, Dr. Nakata checked his files and learned that the State Line fault was omitted on his original compilation which he sent to several people (including Dr. Charles Jennings of the California Division of Mines and Geology) for review. Dr. Nakata does not believe that the State Line fault was omitted for any reason; he believes it was an error which none of the reviewers caught. Dr. Nakata believes that the State Line fault should have been included on his map because it was shown on the map by Jennings (1975). This belief is supported by the inclusion of the State Line fault on the more recent map of Quaternary faults in California by Clark and others (1984). Therefore, the State Line fault should be addressed in the final Supplement, even though it is not shown on the 1982 map.

4.0 Environmental Consequences

4.2.6 Freshwater Biology

KR-14 The WyCal Supplement at pg. 4-15 does not address WyCal's proposed crossing of the Colorado River. Since WyCal has not stated that it would use the bridge across the Colorado River owned by El Paso, it would appear that WyCal intends a conventional river crossing. This should be addressed in the Final Supplement.

KR-14 See response to WyCal comment WY-33.

4.3 WyCal Route Variations

4.3.1.2 Geology

4.3.1.2.1 Bountiful Boulevard Alternative

4.3.1.2.2 Pages Lane Alternative

KR-15 At page 4-42, the Draft states, under discussion of the Bountiful Boulevard Alternative, that "it is conceivable that a debris flow of sufficiently large magnitude to negatively impact the pipeline could develop in the upper portions of the watershed."

This statement suggests that a debris flow discharged from a canyon could damage a pipeline which crosses the canyon mouth. Debris flows pose different hazards to underground pipelines depending on whether the pipeline is positioned in the alluvial fan or in the stream channel. Sediment deposition can be so great on the alluvial fans as to crush the pipeline, whereas the main hazard in stream channels is the removal of the streambed material.

The Wasatch Variation would cross the channels of Holbrook Canyon, Mill Creek Canyon, North Canyon, and Hooper Canyon well above the alluvial fans; consequently, the primary hazard of any debris flows moving down these canyons would be the expected liquefaction of the stream bed sediments. Special installation considerations, such as installing the pipeline in bedrock and encasing the pipeline in concrete across the stream channels, would

KR-15 Thank you for your perspective but the fact remains that "it is conceivable..."

KR-15 (cont.) cause the pipeline to behave as bedrock, practically eliminating the possibility that it would become entrained with the stream bed sediments. Thus, design considerations can be implemented to fully mitigate this aspect of debris flow hazards.

The Bountiful Boulevard Alternative is unfavorable in this regard, because it would cross the mouths of Holbrook Canyon and Mill Creek Canyon in roadway embankments. These embankments were constructed chiefly for roadways and, therefore, are equipped with drainage devices (culverts) which are designed for some specific precipitation/flood event. These embankments would act as dams during periods of high discharge of sediment or water if the capacity of the drainage devices were exceeded either by plugging with debris or simply by excess water flow. Road embankments failed in 1983 in Bountiful, contributing significantly to the magnitude of the damage in the community. The factor of safety for the embankments would be considered inadequate for precipitation/flood events which exceed the design criteria for the drainage devices. Locating pipelines in such embankments should be avoided.

The Pages Lane Alternative crosses Stone Creek in a major road embankment. For reasons discussed above, locating pipelines in such embankments should be avoided.

KR-15 (cont.) Thus, the Pages Lane Alternative is unfavorable from this standpoint.

4.3.1.4 Surface Water

KR-16 With respect to the discussion at pages 4-44 through 4-46 on impacts that could occur due to crossing Holbrook Canyon and Mill Creek, the Draft at page 4-44 states: "See FEIR/S, II/4.4.1.4.1 for more discussion on impacts that could occur due to crossing Holbrook Canyon and Mill Creeks." Subsequent to the issuance of the FEIR/S, however, factual information was presented by Kern River concerning the impact of the Wasatch Variation on crossing Holbrook Canyon and Mill Creek. The final WyCal Supplement should be modified to include the following additional material. Record cites are provided so that Staff can verify the facts stated if it wishes to do so.

Northeast of Salt Lake City, Utah, the Wasatch Variation would cross Mill Creek Canyon, which the City of Bountiful utilizes for watershed purposes and in which it has built and maintains a water treatment plant and other water supply facilities. Exh. CB-1 at 6-7. It also would cross Holbrook Canyon, which Bountiful has acquired for watershed purposes and in which it contemplates building water supply facilities in the future if demands for water so require. Id. at 7; Exh. KR-177 (data request no. 7).

The only surface water from Mill Creek Canyon which Bountiful utilizes is collected from Mill Creek at an

KR-16 Thank you for your comments. Elaboration of construction methods in these areas will be useful should either Kern River or WyCal be certificated.

KR-16 (cont.) intake structure located one-quarter mile east of the treatment plant and is piped from that intake structure to the plant. Exh. KR-177 (data request no. 5). The pipeline would be located downstream of the intake structure, thereby preventing any potential sedimentation of any of the surface water that Bountiful collects. Exhibit KR-37 at 18; Exhibit KR-175 at 3. All other water that Bountiful collects from Mill Creek Canyon is from wells and springs. This water does not flow on the surface before it is collected and is piped from the wells and springs to the treatment plant in underground pipelines. Exh. KR-177 (data request no. 5); Exhibit KR-182. The pipeline would be installed underneath those water pipelines. 91 Tr. 12866-67. Accordingly, the pipeline can be constructed without disturbing the pipelines that carry water from Bountiful's water sources to its water treatment plant.

With respect to Holbrook Canyon, Bountiful has no plans for the facilities it anticipates one day installing in Holbrook Canyon. Exhibit KR-177 (data request no. 7). Future installation by Bountiful of water supply facilities in Holbrook Canyon, if it is undertaken, can be coordinated with the installation of Kern River's pipeline in order to prevent either party's facilities from conflicting with those of the other.

The watershed value of Holbrook and Mill Creek Canyons can be protected in numerous ways. In steeply

KR-16 (cont.)

sloping areas such as these canyons the pipeline can be installed utilizing specialized techniques, such as Kern River has proposed. Exhibit KR-174 at 4. One such specialized method would entail utilizing a narrower right-of-way than is ordinarily used in cross-country pipelining, thereby ensuring the integrity of the surrounding environment by reducing the area that is disturbed by trenching activities and installation of the pipeline. Id. This allows for quicker recovery of native vegetation and minimizes the possibility of initiating erosion and, thus, sedimentation of the stream in the canyon. Id.

Kern River has stated that local springs would be protected throughout construction and hydrologic studies will be conducted to insure that construction and operation of the pipeline do not affect the integrity of the hydrologic systems of the watersheds. Careful erosion control measures will be used during and after construction, and revegetation will be accomplished as quickly as possible thereafter, thereby reducing erosion to insignificant levels and preventing significant sedimentation of the streams in the canyons. Exh. KR-175 at 3-4. Kern River has also stated that it will monitor the success of reclamation after construction through surveillance of the pipeline right-of-way and will take whatever remedial actions are necessary to ensure the

KR-16 (cont.)

integrity of the watershed and to achieve successful restoration. Id.

The Kern River alignment in Holbrook and Mill Creek Canyons has been inspected by Golder Associates; by Mr. Michael Love, the Davis County geologist; and by Mr. Bruce Kaliser, formerly a Forest Service geologist and they have found no instability on the pipeline alignment. As stated above, construction techniques can be employed to minimize disturbances related to pipeline construction. In addition, the downslope alignment of the pipeline is favorable for maintaining stability because it minimizes the chances of changing subsurface water flows and problems that might arise if ground water were channeled across the slope along the pipeline ditch. Exh. KR-174 at 4.

As to any concern about the impacts of access roads on the watersheds, examination of aerial photography, U.S. Geological Survey quadrangle maps and Kern River's knowledge indicate that construction can be accomplished by using the Mountain Fuel right-of-way for access to the north side of Holbrook Canyon, Kern River's proposed right-of-way for access to the south side of Holbrook Canyon and the proposed right-of-way south of Cave Peak for access to the north slope of Cave Peak. Accordingly, no new access roads will be necessary in these areas.

4.3.1.13 System Safety and Reliability

KR-17 At pages 4-64 and 4-65, the Draft states that the first 43 miles of the Wasatch Variation Alternatives cross "several known fault zones" and rugged terrain with the potential for landslides, and the last 87 miles cross "known active faults which have experienced high-intensity seismic activity in the recent past." The Draft further states that the pipeline will be susceptible to damage which may occur at frequent intervals due to geologic conditions and weather patterns.

The "several known fault zones" in the first 43 miles of the Wasatch Variation are pre-Quaternary. Volume II, § 3.3.1.2.1 identifies only the Wasatch Fault (MP 49) as crossed by the variation. Kern River recognizes that Mojave Pipeline Company submitted testimony in Phase II of the Mojave/Kern River proceeding which purported to identify several Quaternary faults in this area. That testimony was based solely on the 1980 Geologic Map of Utah by Lehi F. Hintze. 95 Tr. 13408 (6/23/88). Kern River's consultant has discussed these faults with geologists at the Utah Geological and Mineral Survey who are actively working on geologic hazards. Their comments are summarized in the attached letter dated August 22, 1988, attached hereto as Appendix D.

The Utah Geological and Mineral Survey is currently updating the Quaternary fault map of the state

KR-17 Thank you for your comments. The information will be useful when the studies required by Vol. III Supplement Mitigation Measures 4, 5, 7, and 8 are conducted.

KR-17 (cont.) which was originally compiled by Anderson and Miller (1979). They have not used Hintze's Geologic Map of Utah as a reference in this update because they do not view it as a suitable source of basic information. Further, the faults classified by Mojave as Quaternary on the basis of the Geologic Map of Utah are considered to be map errors by the Utah Geological and Mineral Survey geologists. While there are some Quaternary faults in Utah east of the Wasatch Fault, all faults crossed by the Wasatch Variation and Alternatives east of the Wasatch Front are pre-Quaternary. The FERC staff's response to Mojave's Phase II Data Request No. 2 indicates that pre-Quaternary faults are not considered to be seismic hazards to the pipeline.

The known active faults crossed by the last 87 miles of the Wasatch Variation and Alternatives consist of the Wasatch fault zone and the West Valley fault zone in the Bountiful-Salt Lake City area, and a zone of unnamed faults in Little Valley (about 10 miles north-northwest of Scipio). The statement in the DEIS incorrectly implies that "known active faults which have experienced high-intensity seismic activity in the recent past" are present all along the last 87 miles of the Wasatch Variation alignment. In fact, high-intensity seismic activity can be interpreted only for the Wasatch fault zone on the basis of evidence of repeated displacement of the ground surface obtained from trench exposures of the fault. The West

KR-17 (cont.) Valley fault zone displays evidence of monoclinal folding of the ground surface with minor step faulting, and may indicate that the seismic activity causing the folding was just intense enough to cause surface deformation (Keaton and others, 1987). The faults in Little Valley display evidence of late Quaternary displacement (Anderson and Miller, 1979), but the reference to high-intensity seismic activity in the recent past seems unfounded.

Fault rupture hazards can be mitigated by engineering measures, such as careful orientation of the pipeline across the fault zone, special ditch configurations and backfill specifications, and installation of shutdown valves activated by strong ground motion. (Item by Ref. KR-A at 4-5; Exh. KR-15 at 14; EIS Vol. III, page 3-6; 69 Tr. 9952-53; Exh. KR-197, p. 19).

The probability of surface fault rupture, on the boundary between the Weber and Salt Lake segments, during the life of the pipeline is very small. It must be emphasized that the proposed Wasatch Variation crosses the Wasatch fault at the boundary between the Weber segment to the north and the Salt Lake City segment to the south. Results of research conducted by the U.S. Geological Survey indicate that the amount of offset per earthquake diminishes toward the ends of the segments; thus, the alignment crossing at the segment boundary is expected to experience less offset than alignments crossing in the

KR-17 (cont.) middle of the segments. The mapping by the U.S. Geologic Survey indicates that the proposed Wasatch Variation alignment does not cross any traces of the Wasatch fault recognizable in the sediments of Lake Bonneville. Therefore, although the Wasatch fault zone certainly is present all along the western base of the Wasatch Range, if the recent past is an indication of the near future, the probability of fault rupture affecting a pipeline at this position would be exceedingly small.

The various alignments of the Wasatch Variation alternatives also cross the West Valley fault zone. Results of research conducted on this fault zone (Keaton and others, 1987) indicates that the surface expression of the traces is monoclinal folding with minor step faulting. The folds are approximately five feet high in sediments which are about 10,000 years old; the fold on any individual fault trace is distributed across a zone about 15 feet wide. Thus, stresses induced by a reactivation of movement on the West Valley fault zone probably would be distributed linearly along the pipeline also. This distribution of stresses would make engineering measures to mitigate the surface rupture hazards easier on the West Valley fault zone than on most other faults where the stresses are concentrated across a narrow, discrete plane of rupture.

KR-17 (cont.) The Draft states that the pipeline will be susceptible to damage which may occur at frequent intervals due to geologic conditions and weather patterns. The proposed Wasatch Variation alignment was carefully selected to avoid swales and sidehills, thus effectively minimizing potential damage due to ground failure caused by slope instability. Engineering measures are readily available and in common usage for controlling surface and subsurface water. These measures, implemented where appropriate, will further reduce the likelihood of damage to the pipeline due to slope instability (landslides). The Wasatch Variation Alternatives have greater exposure to slope instability hazards than does the proposed Wasatch Variation, as discussed in Kern River's comments on statements at page 4-42 of Volume VI and at page 1-53 of Volume III of the Draft Supplement.

KR-18 The Draft also states at page 4-65 that there could be some effect on the scheduled delivery of gas as a result of access restrictions imposed by the Forest Service. While seasonal restrictions may apply if access is required for "maintenance and minor repairs" during periods of adverse weather, resource concern, etc., when rescheduling of the activities would alleviate the impact, the SEIS should clarify that these restrictions would not apply where the continued operation of the system was jeopardized.

KR-18 Comment accepted, see Vol. VI, Section 4.3.1.13.

KR-18 (cont.) Clarification of this matter was obtained by Kern River from Forest Service personnel, who stated that in the event a condition arose that posed the threat of pipeline failure (requiring a shutdown or reduction in throughput) an emergency situation would be declared and administrative restrictions to access would be waived. Therefore, any seasonal restrictions on access that might be imposed would not affect deliveries of gas. A record of the telephone conversation documenting this clarification is provided as Appendix E.

Table 4.3-3 Vegetation Types (Bountiful Variations)

KR-19 At pages 4-49 through 4-51, the summary of vegetation types identified for each of the Bountiful Variations appears to be incorrect in terms of impact comparison. For example, the table identifies the Bountiful Boulevard alternative as impacting more acres of wetland/riparian vegetation than the Bountiful Peak or Pages Lane Alternatives. However, on-site inspections of these routes indicate clearly that the Bountiful Peak and Pages Lane Alternatives would impact more acres of wetland/riparian vegetation. These wetlands are in the vicinity of the areas where the alternatives approach and parallel the power lines adjacent to the Farmington Bay Waterfowl Refuge. The Bountiful Boulevard Variation should impact approximately 1.4 fewer acres of wetlands than the Wasatch Variation.

KR-19 For consistency purposes, the same methodologies were used to determine the distribution of wetlands and the area of impact for the Draft Supplement as were done for the FEIR/S. More detailed wetlands identification, mapping, impact assessment, and mitigation would be required once a proposal is approved (see Mitigation Measures 69, 70, 71, and 73 in the Vol. III Supplement).

4.3.1.8.4 Recreational Resources Wasatch Variation Alternatives

KR-20 At pages 4-56 and 4-57, the Draft states that no recreational impact is expected to occur outside of forest lands for any of the alternatives, given their urban nature.

The city of West Valley City, Utah identified concerns regarding public safety and the compatibility of a high pressure natural gas line with a linear park being contemplated for portions of land on Kern River's proposed alignment. Kern River responded with the attached letter which discusses engineering design factors, the safety record of natural gas transportation systems and compatibility of pipelines with parks and recreation areas should multiple use of the land be required.

West Valley City responded that the letter addressed many of their concerns and the information it contained would be very helpful in their future planning. A copy of Kern River's transmittal to West Valley City is included in the attached Appendix F.

KR-21 The statement at page 4-57 that construction parallel to Skyline Drive would have only a short-term impact on the natural visual scene from the road is inconsistent with the prediction of long-term impact of this segment at page 4-64 of Volume VI and with statements in FEIS Volume II concerning slow rejuvenation of forested areas.

KR-20 Thank you for the information.

KR-21 Comment accepted, see Vol. VI, Section 4.3.1.8.4.

4.4 Cumulative Impacts

KR-22 At page 4-77, the Draft states that cumulative impacts would occur to land stability where the proposed pipeline would be adjacent to or overlap the Mountain Fuel pipeline and the Bountiful City electric transmission line. The Draft further states that these cumulative impacts could result in floods and debris flows into portions of residential areas of south Davis County.

Techniques are available for minimizing sediment yield from disturbed areas on steep hillsides. Some of these techniques (e.g., contour terraces) were first attempted and proved successful on the western slopes of the Wasatch Range in the 1930's following damaging sediment discharges resulting from cloudburst rainstorms on abused watersheds. Other techniques (e.g., subdrains) have been developed over many years of experience in improving slope stability. These methods could be employed at those locations where the risk of significant sediment yield would be reduced.

The Kern River Wasatch Variation alignment was carefully selected so that the pipeline would be situated on primary and secondary ridges, avoiding swales and sidehills. Thus, the major locations of sediment yield will be avoided by route selection. Swales are major locations of sediment yield because they concentrate surface and subsurface water flows; sidehills are major

KR-22 Thank you for your comment.

KR-22 (cont.)

locations of sediment yield because surface water can achieve eroding velocities relatively easily. Primary and secondary ridges are desirable locations for pipeline construction because stable bedrock formations usually are located at relatively shallow depths and surface and subsurface water flows are dispersed off the ridge tops. The combination of 1) careful route selection to avoid swales and sidehills and 2) construction techniques to minimize sediment yield and promote rapid revegetation can be used to fully mitigate potential cumulative effects of the proposed pipeline and existing facilities.

The Bountiful Boulevard Alternative and the Pages Lane Alternative follow the Mt. Fuel alignment on the west side of the Wasatch Range to the base or nearly to the base of the range, respectively. Consequently, the opportunity of cumulative effects would be greater for these alternatives than for the other alternatives which do not follow the existing utility corridor. However, techniques are available to mitigate construction disturbance for several facilities within the same corridor. It is important to note that the Mountain Fuel pipeline was not damaged in the 1983 or 1984 debris flows and floods. Jadkowski (1987) shows 37 landslides within one mile of the Mt. Fuel alignment which occurred in 1983 or 1984. These landslides were chiefly in topographic swales and in some cases on steep sidehills. This observation suggests that

KR-22 (cont.) the existing pipeline probably had little to do with the distribution of landslides and that the presence of swales and sidehills probably is the important factor.

The Bountiful Peak Alternative crosses significant areas of swales and steep sidehills, including areas where contour terraces were constructed in the 1930's. Therefore, this alternative is unfavorable in this regard even though it may avoid some cumulative impact by deviating from the existing Mountain Fuel corridor.

Table 4.7-1, Short-Term and Long-Term Impacts

KR-23 The entries in Table 4.7-1 on page 4-84 which indicate no long-term significant impacts by WyCal on surface water or on fresh water biology are inconsistent with changes to Table 4.9-1 of Volume II related to Kern River which the Staff has made at page 1-31 of the Volume VI Supplement. The tables in Volume II should be revised to reflect the same conclusions as are stated in Table 4.7-1 on page 4-84 of the Draft Supplement.

KR-23 Comment accepted, changes made to Vol. VI, Table 4.7-1.

WYCAL SUPPLEMENT

Comparisons and Recommendations

Volume III Supplement

1.0 Interstate Systems Comparative Analysis

1.4 Kern River Proposed Action

1.4.1 Kern River Proposal

On page 1-49, the Draft states:

> "There is no vehicle access into most of the mainline route from MP 110 to 142. New roads would have to be approved by the Forest Service prior to construction. In several areas, new roads would cause unavoidable adverse impacts to soils, land stability, and other watershed values."

KR-24 A similar statement is made at page 1-77 regarding the corresponding portion of WyCal's proposed route. These statements are inaccurate and should be revised in the Final Supplement. In Part 1 of the attached Appendix G, Kern River describes the existing roads in this area that are suitable for use for access for construction of this portion of the proposed Kern River/WyCal route. It is the opinion of Kern River that a pipeline could be built in this area without the construction of new access roads. This conclusion is based on the experience and knowledge of Kern River personnel in the construction of natural gas pipelines and on careful review of maps and aerial photographs, as well as on-the-ground inspection. Access during construction would be achieved by the use of existing roads, improvement of some existing roads, and use

KR-24 These parts of the route (and its issues) were the subject matter of the FEIR/S and beyond the scope of comments sought on the WyCal Supplement. As stated in the Draft Supplement, the scope of the comments must be limited to that discussed in Section 1.2 of the Introduction. Page 1-9 specifically stated that the staff did not intend to allow this supplement to resurrect old issues nor entertain comments on old issues. The comment period for old issues is closed.

KR-24 (cont.) of the right-of-way. Use of the right-of-way for access would provide the same benefit as use of the Ward Canyon Utility Corridor discussed in paragraph 6 on page 1-81; paragraph 2 on page 1-83; paragraph 5 on page 1-85; and paragraph 3 on page 1-87.

1.4.2 Kern River Wasatch Variation

On page 1-52, the Draft states:

> "This Variation is essentially unroaded for about 33 miles between the crossing of I-80 and its descent into the Salt Lake Valley. The four-mile portion of the Wasatch Variation within the Wasatch-Cache National Forest is inaccessible by vehicle. New roads would have to be approved by the Forest Service prior to construction. In several areas of steep rugged terrain, new roads would cause unavoidable adverse impacts to soils, land stability, and other watershed values."

A similar statement is made at page 1-81 concerning the "WyCal Wasatch Variation." These statements are inaccurate and should be revised in the Final Supplement. In Part 2 of the attached Appendix G, Kern River describes the existing roads in this area that are suitable for use for access for construction of this portion of the Variation. It is the opinion of Kern River that a pipeline could be built in this area without the construction of new access roads. Access during construction would be achieved by the use of existing roads, improvement of some existing roads, and use of the right-of-way for access. Use of the right-of-way for access would provide the same benefit as use of

KR-24 (cont.) the Ward Canyon Utility Corridor discussed in paragraph 6 on page 1-81; paragraph 2 on page 1-83; paragraph 5 on page 1-85; and paragraph 3 on page 1-87. This conclusion is based on the experience and knowledge of Kern River personnel in the construction of natural gas pipelines and on careful review of maps and aerial photographs, as well as on-the-ground inspection.

1.4.3 Kern River West Strawberry Variation

At page 1-55, the Draft states that "[n]ew roads on Forest Service lands would require approval by the Forest Service," thus implying that new roads might be necessary to construct this route. This indication is inaccurate and should be revised in the Final Supplement. In Part 3 of the attached Appendix G, Kern River describes the existing roads in this area that are suitable for use for access for construction of this portion of the Variation. It is the opinion of Kern River that a pipeline could be built in this area without the construction of new access roads. Access during construction would be achieved by the use of existing roads, improvement of some existing roads, and use of the right-of-way for access. Use of the right-of-way for access would provide the same benefit as use of the Ward Canyon Utility Corridor discussed in paragraph 6 on page 1-81; paragraph 2 on page 1-83; paragraph 5 on page 1-85; and paragraph 3 on page 1-87. This conclusion is based on the experience and knowledge of

KR-24 (cont.) Kern River personnel in the construction of natural gas pipelines and on careful review of maps and aerial photographs, as well as on-the-ground inspection.

1.4.8.2.2 Kern River Proposal (Henderson Variation vs. North Las Vegas Variation)

The Draft states at page 1-69 that the North Las Vegas Variation would still be the preferable Nevada variation regardless of whether Congress acts to remove the Sunrise Mountain Natural Area ISA status. The evidence shows that, if the status of Sunrise Mountain is favorably changed, there are no significant advantages to the North Las Vegas Variation which outweigh the additional cost and length (and accompanying disturbance to wildlife and soil during construction) of the North Las Vegas Variation as compared to the proposed route (Exh. KR-171 at 4-5; Exh. KR-172 at 2-10).

Table 1.5-1 WyCal Summary of Impacts

KR-25 At Table 1.5-1, page 1-75 of Volume III it is indicated that only the Bountiful Peak Alternative would have a high visual impact in comparison to the other Wasatch Variation alternatives and that the Bountiful Peak Alternative would have approximately 16 fewer acres of high visual impact than the Wasatch Variation portion it would replace. However, there should be a discussion of the degree of impact upon the viewing population and the viewpoints. The areas of high visual impact on the Bountiful Peak Alternative would be located on the west

KR-25 The Bountiful Peak Alternative primarily consists of areas of partial retention with previous modifications which results in a "moderate" impact. The Wasatch Variation contains areas of retention and partial retention without modification. See FEIR/S, II/4.2.12.

KR-25 (cont.) facing slope of the Wasatch Range within the direct line of sight of the valley population, Interstate 15 and the communities of Farmington and Centerville. The Wasatch Variation would be located in such a manner that the majority of the pipeline right-of-way in this area will be perpendicular to the line of sight from the valley population, Interstate 15 and the communities of Bountiful and North Salt Lake. Therefore, the pipeline right-of-way orientation to the viewing public in this area (Holbrook, Mill Creek and North Canyons) will be more readily obscured from view on the Wasatch Variation by the intervening ridges and vegetation.

On April 21, 1988, representatives of the FERC staff, Bountiful Hills Residents and Concerned Citizens Association, Bountiful City, Chambers Group (EIS preparers), WyCal and Kern River made a site visit to the North Canyon area. At that time, the Wasatch Variation alignment was reviewed and found to be hidden from the viewpoint of the North Canyon residences by an intervening ridge. This type of screening would not be available for much of the Bountiful Peak Alternative.

KR-26 Also, at Table 1.5-1, page 1-75 of Volume III it is indicated that both the Bountiful Peak Alternative and the Pages Lane Alternative impact nine fewer acres of riparian habitat than the Wasatch Variation. On-site inspection of these routes indicate that riparian/wetland

KR-26 See response to KR-19.

KR-26 (cont.) habitat is crossed by the Bountiful Peak Alternative from approximately mileposts BP 49 to BP 53 and approximately mileposts BP 56 to BP 57. The Appendix D map supplement (Maps 12, 13 and 14 of 26) erroneously identifies these areas as agriculture. Also, the Pages Lane Alternative crosses riparian/wetland habitat from approximately PL 46.5 to PL 48 and PL 50 to 51. The Appendix D map supplement (Maps 7, 8 and 9 of 26) erroneously identifies these areas as agriculture.

1.5.2.2.1 Pages Lane Alternative

KR-27 The supplement at page 1-86 assesses nine less acres of riparian (wetlands) habitat on the Pages Lane Variation as opposed to the portion of the Wasatch Variation it replaces. On-site knowledge of this area indicates that Pages Lane would impact more riparian habitat. See comment above regarding Table 1.5-1.

1.5.2.[3].1 Bountiful Peak Alternative

KR-28 The discussion of this alternative at pages 1-90 to 1-91 of the Volume III Supplement treats visual impacts on the alternative as equivalent to those of the Wasatch Variation. Because of the alternative's proximity to Skyline Drive and its apparent intrustion on the scenic views from that road, this treatment seems inappropriate. This is discussed further in the comment below on § 1.5.4.1.

KR-27 See response to KR-19.

KR-28 It is not inappropriate. Both routes would involve impacts that will be highly visible.

KR-29 Also, as with the Pages Lane route, the Draft states that the Bountiful Peak Variation would impact nine fewer acres of riparian habitat than the Wasatch Variation. On-site observation indicates more riparian habitat would be impacted. See comment above regarding Table 1.5-1.

1.5.3 WyCal North Las Vegas Variation

KR-30 The Draft states at 1-92 that the WyCal North Las Vegas Variation would impact eight more acres of riparian habitat than that crossed by the proposed route. It is not indicated where this habitat occurs. If this statement is correct, it appears to be inconsistent with favoring the variation, since one reason for recommending adoption of the North Las Vegas Variation is to avoid the Las Vegas Wash wetlands.

1.5.4.1 The Wasatch Variations

KR-31 At pages 1-93 to 1-95, the Staff summarizes its conclusions concerning the Wasatch Variation and the three alternatives to the variation: Pages Lane, Bountiful Boulevard and Bountiful Peak. Staff concludes that: "On balance, considering both natural and social environmental issues, the Wasatch Variation as it was originally discussed in the FEIR/S (Volume III) remains Staff's preferred routing" (1-94). Staff states, however, that it wants to remain open on this issue and that it seeks comments from Kern River and others on the economic, environmental and engineering aspects of the alternatives

KR-29 See response to KR-19.

KR-30 The additional acres of riparian habitat would occur at various points along the North Las Vegas variation associated with wash crossings. Reasons for favoring the variation extend well beyond the issue of the Las Vegas Wash wetlands.

KR-31 Thank you for your response to our request for additional data.

KR-31 (cont.) to the Wasatch Variation (1-95). In order to assist Staff, Kern River submits the following comments on these questions:

Comparative Cost. Kern River has prepared studies showing the comparative cost of construction of the pipeline on the Wasatch Variation and each of the above three alternatives. The details as to such costs are set forth in Appendix H, hereto. For the sake of consistency with the evidence in the record, all of the cost estimates use the same costing methods submitted by Kern River during the hearing and are stated in 1986 dollars per the agreement of the parties. For purposes of comparison, each alternative begins at MP 38.5 and ends at MP 52.8 on the Wasatch Variation, per Kern River's measurements. In other words, Kern River has examined each alternative route from the point where the Bountiful Peak Alternative departs from Kern River's alignment to the point where the Pages Lane and Bountiful Peak Alternatives rejoin Kern River's alignment north of the Salt Lake City Airport. As compared to the Wasatch Variation, the least expensive of the alternatives would increase the direct cost of constructing the relevant portion of the Variation by 50%:

ALTERNATIVES (MP 38.5 WV to 52.8 WV)	DIRECT COST (1986 Dollars)	DIFFERENCE
Wasatch Variation	$12,301,000	
Bountiful Boulevard	$18,301,000	+ $6,000,000
Pages Lane	$20,285,000	+ $7,984,000

KR-31 (cont.)

Bountiful Peak	$19,558,000	+ $7,257,000

The above comparison does not reflect indirect costs of construction (such as overheads, engineering and AFUDC) which would cause a greater difference between the Wasatch Variation and the Alternatives.

The Bountiful Boulevard alternative is 14.9 miles in length, of which 6.7 miles is the same as the Wasatch Variation. Of the 8.2 miles that differ from the Kern River Wasatch Variation, the terrain and the construction cost for 3.8 miles are generally the same. The remaining 4.4 miles of different route would involve installing the pipeline under Bountiful Boulevard, a new street and residential area in the City of Bountiful. The proposed pipeline would be constructed in a 66-foot wide boulevard which contains storm drains, sanitary sewers, domestic water lines and various other underground utilities.

Kern River has made an on-site reconnaissance of Bountiful Boulevard and has reviewed maps that were made available by the City of Bountiful. A more detailed study of the utilities under Bountiful Boulevard would be required before a detailed design could be accomplished. The number and location of such utilities could prove to be more difficult and more expensive than anticipated in Kern River's cost estimate. Kern River has assumed, for estimating purposes, that sufficient space is available to

KR-31 (cont.) allow the construction of a 36" pipeline in a reasonably efficient manner. Rock which would require drilling and shooting or jackhammer removal has not been included in the cost estimate. Should an excessive amount of rock be encountered, the total cost and the construction period could be increased considerably.

The pipeline can be designed, constructed (under the assumptions stated above) and operated in a safe manner and in compliance with the Code of Federal Regulations. However, as in any other congested or commercial area where excavation activities occur frequently for construction of other projects or utilities, there is an inherent risk of the pipeline being damaged by others.

The construction progress would be very slow. It is estimated that construction on this 4.4 miles would take approximately 60 days, during which time traffic would be severely disrupted and at times blocked. The estimated direct cost of the Bountiful Boulevard Alternative under the assumptions stated above is $18,301,000. This is approximately $6,000,000 more than the section of the Wasatch Variation that it would replace.

The Pages Lane Alternative is 15.6 miles in length. Approximately 1.2 miles are the same as the Wasatch Variation and parallels Mountain Fuel's pipeline in the Ward Canyon corridor. Another 4.3 miles continue to follow Mountain Fuel in the Ward Canyon corridor, with

KR-31 (cont.) generally the same terrain and construction cost as the Wasatch Variation. The next 2.8 miles departs from Mountain Fuel's line and enters the City of Centerville on Pages Lane. This area is residential on each end with approximately one mile in the center that is highly commercial with a major shopping center on the south side of the street and a public school on the north side. The 36" pipeline would be installed underneath Pages Lane.

Kern River has made an on-site reconnaissance of Pages Lane and has reviewed maps that were made available by the City of Bountiful. A more detailed study of the utilities under Pages Lane would be required before a detailed design could be accomplished. The maps reviewed indicate that Pages Lane already contains large storm drains, sewer lines, domestic water lines, an irrigation water line, gas line and various other utilities. Kern River has assumed, for estimating purposes, that sufficient space is available to allow the construction of a 36" pipeline in a reasonably efficient manner. However, the number, size and location of existing utilities might not allow sufficient space for the construction of a 36" pipeline. In addition, rock which would require drilling and shooting or jackhammer removal has not been included in the cost estimate. Should an excessive amount of rock be encountered, the total cost and the construction period could be increased considerably.

KR-31 (cont.)

Because of congestion, construction along Pages Lane under the assumptions stated above would be very slow. Construction progress probably would not average more than 300 to 400 feet per day. Traffic along Pages Lane and its cross streets would be severely disrupted and at most times would be blocked during the day. The proposed pipeline would most likely be installed below the existing utilities.

The pipeline can be designed, constructed (under the assumptions stated above) and operated in a safe manner and in compliance with the Code of Federal Regulations. However, as in any other congested or commercial area where excavation activities occur frequently for construction of other projects or utilities, there is an inherent risk of the pipeline being damaged by others.

The remaining 7.3 miles of the Pages Lane Alternative parallel the Utah Power & Light power line corridor until it rejoins the Wasatch Variation. This area is generally flat and marshy.

The estimated direct cost of the Pages Lane Alternative under the assumptions stated above is $20,285,000. This is approximately $7,984,000 more than the section of the Wasatch Variation that it would replace.

The Bountiful Peak Alternative is 20.4 miles in length, beginning at MP 38.5 on the Wasatch Variation and heading in a northwesterly direction to Bountiful Peak, KR-31 (cont.) then west to near I-15 for a total distance of approximately 9.6 miles. The terrain and construction cost in this area is generally the same as the Wasatch Variation. From the crossing of I-15 southwesterly to the intersection of Pages Lane and 1100 West, a distance of approximately 3.5 miles, the terrain is mostly flat, partly dry land and partly marsh, most of which parallels a power line corridor. From the Pages Lane and 1100 West intersection southwesterly to the intersection of the Wasatch Variation at MP 52.8 WV, a distance of approximately 7.3 miles, the proposed alternative parallels the power line corridor and the terrain is generally flat and the marshy.

This alternative generally avoids the residential and commercial areas which would be traversed on the Bountiful Boulevard and Pages Lane Alternatives. However, the portion along Skyline Drive would require difficult, sidehill construction.

The estimated direct cost of the Bountiful Peak Alternative is $19,558,000. This is approximately $7,257,000 more than the section of the Wasatch Variation that it would replace. The increase in cost is primarily due to the increase in length.

Apart from the additional capital cost, the cost of maintenance would be greater for each of the alternatives as compared to the Wasatch Variation.

KR-31 (cont.)

There are no comparative environmental benefits from any of the alternatives which justify the additional costs. On the contrary, the Wasatch Variation is superior to the alternatives even if the additional costs are disregarded.

Safety and Reliability. As the evidence shows, geologic faults will pose no significant risk to Kern River's pipeline, including the alignment on the Wasatch Variation. Appropriate engineering and mitigation measures will be employed as necessary on a site specific basis (Item by Ref. KR-1, at 4-5; Exh. KR-15 at 14; 69 Tr. 9952-53; Exh. KR-197, at 19). With respect to the Wasatch Fault, the alignment proposed by Kern River would pose less likelihood of damage to the pipeline (and thus to any nearby development) in the event of an earthquake than would the crossings on any of the alternative alignments.

At pages 1-51, 1-80, 1-84 and 1-88, the Draft comments on the Wasatch fault crossing of the Kern River Wasatch Variation (p. 1-51), the Bountiful Boulevard Alternative (p. 1-80), the Pages Lane Alternative (p. 1-84), and the Bountiful Peak Alternative (p. 1-88) as if the Wasatch fault were identical at each of the places it would be crossed. This is incorrect.

The Wasatch fault zone would be crossed by the Wasatch Variation and alternatives at the western base of the Wasatch Range; however, the character of the fault zone

KR-31 (cont.) is different at the places where each route would cross it. The most recent and detailed mapping of the Wasatch fault zone in Davis County is unpublished mapping by the U.S. Geological Survey (A. R. Nelson, 1987). Although this mapping is unpublished, it is on file at the offices of the Davis County Planning Department in Farmington, Utah. This mapping shows that the Wasatch Variation as proposed by Kern River does not cross any mapped surface traces of the Wasatch fault.

The Bountiful Boulevard Alternative runs parallel to and up slope from traces of the Wasatch fault over most of its length after it reaches the Bonneville Shoreline. The unpublished mapping shows a fault trace very close to or crossing the Bountiful Boulevard Alternative on the north side of Hooper Canyon.

The Pages Lane Alternative will cross a clear and definite trace of the Wasatch fault in the southern part of Centerville at about Mile Post PL 43.8. The Bountiful Peak Alternative will cross the Wasatch fault in the vicinity of Mile Post BP 47. The fault is not well defined in this area because of the presence of a large landslide (slump) which complicates the surface expression of the fault.

For purposes of comparison, it is important to recognize that the Wasatch fault is segmented, as described by Machette and others (1987). The Wasatch Variation crosses the Wasatch fault zone at the boundary separating

KR-31 (cont.) the Weber segment to the north and the Salt Lake City segment to the south and misses all surface traces identified by the most current mapping available. The Pages Lane Alternative and the Bountiful Peak Alternative cross the Weber segment where it is a discrete surface fault trace. Machette and others (1987, p. A-26) note that slip rates of 1.0 to 1.5 mm/yr have been calculated from fault scarps in sediments 15,000 years old or younger along the Weber segment. Additionally, they note that slip rates appear to decrease as one approaches the boundaries of the segment. Thus, from a fault rupture standpoint, the Wasatch Variation appears to be more favorable because the amount of slip generated by the next earthquake on the Weber segment should be less there than across the Pages Lane Alternative or the Bountiful Peak Alternative.

Landslide & Debris Flow. At page 1-53, the Draft indicates that the Wasatch Variation could generate landslides and debris flows (mudflows) which could have a direct effect upon certain limited residential areas. The Draft notes that such landslide and debris flows have occurred in the past in the Bountiful City area.

Historic landslides and debris flows which have occurred in the Bountiful City area have been of two types. In the 1920's and 1930's, debris flows and other sediment discharges onto alluvial fans were caused by erosion resulting from high intensity, short duration cloudburst

KR-31 (cont.)

rainstorms on abused drainage basins (Bailey and others, 1934). The damaging events of 1983 and 1984 were caused by sustained rapid snowmelt which resulted in debris slides, some of which mobilized into debris flows (Anderson and others, 1984; Olson, 1985). Following the sediment discharges in the 1930's, the abused drainage basins, which had been overgrazed and burned, were protected by prohibiting livestock and burning and reclaimed by constructing contour terraces in areas where severe erosion had occurred. This correction appears to have greatly improved the hillsides, because very severe cloudburst rainstorms in the 1940's did not result in significant sediment discharges on the alluvial fans in the Bountiful area. The landslides and debris flows generated by rapid snowmelt in 1983 and 1984 appear to be natural extreme events (Keaton, 1988). It appears that 80 to 90 percent of the sediment discharged onto alluvial fans in 1983 and 1984 along the Wasatch Front was derived from the channels of the streams, not from the hillsides. Consequently, these channels are relatively unlikely to generate additional significant sediment discharges under even extreme conditions until sediment again accumulates in the channels. This is supported by the fact that those canyons which produced significant sediment in the 1920's and 1930's (e.g., Parrish, Ricks [Ford], Davis, Barnard, Steed) produced only modest amounts of sediment in 1983.

KR-31 (cont.) Therefore, those canyons which produced significant sediment in 1983 or 1984 probably will not produce significant sediment discharges again for a considerable period of years.

The availability of sediment is only one factor which contributes to the hazards associated with debris flows. Four other factors occurred in 1983: 1) heavy winter snowpack, 2) saturated soil conditions at the start of winter due to heavy rainfall in the autumn, 3) abnormally low temperatures in the late winter and spring, and 4) sustained high temperatures once melting began. It is important to note that snowmelt flooding occurred along the Wasatch Front in 1922 and 1952 (Marsell, 1972), but no significant slope failures or debris flows for these years are reported in the literature (Keaton, 1988). Therefore, the events of 1983 were caused by an historically unprecedented combination of climatic conditions. The probability that the combination of climatic and soil moisture conditions which occurred in 1983 will simultaneously occur again in any one year is less than 1 in 140 (the period for which records have been kept).

The Kern River Wasatch Variation alignment was carefully selected so that the pipeline would be situated on primary and secondary ridges, avoiding swales and sidehills. The Bountiful Boulevard Alternative and the Pages Lane Alternative, which follow the Mt. Fuel alignment

KR-31 (cont.) on the primary ridge between Holbrook and Stone creeks, also avoid swales and sidehills. These alignments are the most favorable of the alternatives which respect to generation of slope instability because the landslides in 1983 and 1984 were generated in swales, not on primary or secondary ridges (Pack, 1985).

The Bountiful Peak Alternative is unfavorable in this regard because it crosses significant areas of steep sidehills and swales in the upper parts of Centerville Canyon, Parrish Creek, and Ford Canyon. The Draft notes that "no signs of slope instability were observed along the alternative route...although slope instability was observed in the mile-wide study area." A study of landslide susceptibility using multispectral and digital topographic data indicates that a significant amount of the Bountiful Peak Alternative lies within areas classified as susceptible to landsliding (Jadkowski, 1987). In contrast, when the segment of the proposed Wasatch Variation along the Wasatch Front was compared to Jadkowski's data, it was found that the alignment avoided all areas of the highest susceptibility to landslides and that most of it is located in areas classified as not susceptible to slides.

It is important to note that Jadkowski's model was developed using the occurrences of the landslides in 1983 and 1984 only as indicators of landslide sites; geology played no role in his model. Therefore, his classification

KR-31 (cont.) of "landslide susceptible," combined with the location of the Bountiful Peak Alternative in swales and on steep sidehills, suggests that landslides adversely affecting the pipeline could occur in the future and indicates that the alternative is unfavorable.

Additionally, the Bountiful Peak Alternative crosses a large dormant landslide (slump) from Mile Post BP 46.1 to 47.3. This slump appears to have been dormant for at least 16,000 years because the Bonneville Shoreline is present on the landslide mass at its appropriate elevation. However, the toe area of this landslide has two active gravel pits where material is being removed. Removal of material from the toe of a landslide reduces the factor of safety and tends to promote reactivation of movement. The response of this dormant landslide during the next major earthquake on the Wasatch fault, particularly on the Weber segment, is uncertain. However, because the surface fault trace is obscure where it passes through the landslide mass, it may be reasonable to expect some movement of the landslide during the next earthquake.

KR-32 On page 1-96, the Draft states:

> "The Kern River route would cross 23 faults, 136 miles of areas with landslide potential, and would traverse 215 miles of slope greater than 30 percent. The WyCal route would cross 35 faults, 128 miles of areas with landslide potential, and would traverse 208 miles of slope greater than 30 percent."

KR-32 The eight miles of landslide potential occur in the California portion of the Kern River route. However, change made to Table 1.6-1 of the Vol. III Supplement.

KR-32 (cont.) The identification of the eight fewer miles of areas with landslide potential for WyCal is not found in the Supplement. It should also be noted that there is an inconsistency regarding mileage of landslide potential for WyCal, since the narrative above states 128 miles and Table 1.6-1 on page 1-97 states 122 miles.

KR-33 Environmental - At Table 1.5-1, page 1-75 of Volume III, it is indicated that only the Bountiful Peak Alternative would have a high visual impact in comparison to the other Wasatch Variation alternatives and that the Bountiful Peak Alternative would have approximately 16 fewer acres of high visual impact than the Wasatch Variation portion it replaces. However, as discussed earlier, there should be a discussion or analysis of the degree of impact upon the viewing population and the viewpoints. The areas of high visual impact on the Bountiful Peak Alternative would be located on the west facing slope of the Wasatch Range within the direct line of sight of the valley population, Interstate 15 and the communities of Farmington and Centerville. The Wasatch Variation is located in such a manner that the majority of the pipeline right-of-way in this area would be perpendicular to the line of sight from the valley population, Interstate 15 and the communities of Bountiful and North Salt Lake. Therefore, the Wasatch Variation pipeline right-of-way orientation to the viewing public in

KR-33 See response to KR-28.

KR-33 (cont.) this area (Holbrook, Mill Creek and North Canyon) will be more readily obscured from view by the intervening ridges and vegetation.

In addition, on April 21, 1988, representatives of the FERC staff, Bountiful Hills Residents and Concerned Citizens Association, Bountiful City, Chambers Group, WyCal and Kern River made a site visit to the North Canyon area. At this time, the Wasatch Variation alignment was reviewed and found to be hidden from the viewpoint of the North Canyon residences by an intervening ridge. This type of screening would not be available for much of the Bountiful Peak Alternative.

KR-34 Also at Table 1.5-1, page 1-75 of Volume III, it is indicated that both the Bountiful Peak Alternative and the Pages Lane Alternative impact nine fewer acres of riparian habitat than the Wasatch Variation. On-site inspection of these routes indicates that riparian/wetland habitat is crossed from approximately Mileposts BP 49 to BP 53 and approximately Mileposts BP 56 to BP 57. The Appendix D map supplement (Maps 12, 13 and 14 of 26) erroneously identifies these areas as agriculture. Also, the Pages Lane Alternative crosses riparian/wetland habitat from approximately PL 46.5 to PL 48 and PL 50 to 51. The Appendix D map supplement (Maps 7, 8 and 9 of 26) erroneously identifies these areas as agriculture.

KR-34 See response to KR-19.

1.6 Interstate System Comparison

At page 1-103, the Draft states that:

> On a simple comparative basis, it is clear that WyCal has more environmental impacts than each of the other separate proposals. WyCal, on the other hand, has already committed to adopting all but two of the mitigating measures recommended in Volume III of the FEIR/S, whereas, Kern River and Mojave have not made this commitment but probably would accept such measures as conditions to a FERC certificate authorizing their respective projects. This WyCal commitment, however, is significant, particularly when many of the potential impacts will be significantly mitigated by those measures. This hesitancy to adopt staff measures was one of the bases for the U.S. Fish and Wildlife Service (FWS) to issue a jeopardy opinion for the proposed Kern River, Mojave, and El Dorado projects, i.e., the FWS did not know what measures the applicants were willing to accept or reject. It is Staff's opinion that the WyCal project, by adopting staff's recommendations (including those of BLM, the Forest Service, and the FWS) does not have the biological jeopardy opinion that the other applicants still have until the Commission adopts staff's recommendations.

KR-35 The above statement as to Kern River's position on mitigation measures is incorrect and should be corrected in the final Supplement. First, Kern River has agreed to accept as part of its certificate all of the mitigation measures Staff has recommended (Tr. 12775), but has proposed modifications to two of them. 4/ Kern River will

---

4/ Kern River requested that mitigation measure No. 152 be modified to permit Kern River to utilize its primary route through the Las Vegas area in the event The (continued...)

KR-35 (cont.) accept these two also if they are found by the Commission to be in the public interest. Neither of the two measures Kern River has suggested be modified has any relationship whatever to the biological opinion of the Fish and Wildlife Service.

Second, the statement concerning the biological jeopardy opinion is not consistent with the facts. Kern River filed comments on the DEIS in April, 1987 (in which it sought changes to several proposed mitigation measures, but rejection of virtually none). The U.S. Fish and Wildlife Service (FWS) issued the Biological Opinion in August, 1987, four months after the comment period closed, which gave Kern River no opportunity to accept or reject any of Staff's final recommended mitigation measures before the Fish & Wildlife Service reached a conclusion on

---

4/(...continued)
Instant Study Area status of Sunrise Mountain is changed by Congress before Kern River is prepared to construct its pipeline (Exh. KR-171, p. 5). In Kern River's view, if the status of Sunrise Mountain is favorably changed, the prime route is superior to the North Las Vegas Variation because it involves less pipeline construction, therefore less disturbance, and is substantially less costly (Exh. KR-171 at 4-5; Exh. KR-172 at 2-10).

The only other mitigation measure that Kern River recommended be modified was mitigation measure No. 146, which would require Kern River to directionally drill the Las Vegas Wash. Since the feasibility of such drilling requires engineering studies, Kern River suggested that the mitigation measure be modified to provide for directional drilling if such engineering studies showed it to be feasible (Exh. KR-171, pp. 7-8).

KR-35 There is an important difference between Kern River's commitment versus WyCal's. Kern River has agreed to the conditions if attached to a Commission certificate whereas WyCal has committed to the measures as part of its proposal before the Commission. It should be noted that when the USFWS issued its "jeopardy" opinion, part of their rationale was that they did not know what mitigation measures each applicant was committed to and/or which measures the Commission would attach as conditions of its certificate. Applicants' and/or staff recommended mitigation measures were therefore not considered by the USFWS when it issued its "jeopardy" opinion (see page 7 of the USFWS Biological Opinion, FEIR/S, II/Appendix G). This is precisely why this distinction between each applicant's commitment was considered by staff to be important in the WyCal case.

In a letter dated February 9, 1988, from the USFWS to the FERC, the USFWS stated that should the WyCal pipeline be licensed, it would have to comply with all provisions of the USFWS Opinion in order to be in compliance with the Endangered Species Act. WyCal adopted the conservation measures in the Opinion by adopting staff's mitigation measures without the need of a conditioned certificate. Therefore, in staff's opinion, WyCal does not have a project in "jeopardy".

KR-35 (cont.)

jeopardy. Kern River filed testimony on March 11, 1988, its first procedural opportunity after publication of the FEIS, in which it proposed modifications to only two mitigation measures, neither of which concerned the FWS report. That testimony was Kern River's only chance to state its position regarding any mitigation measures included in the FEIS. Kern River further testified on April 25, 1988, that it would accept all mitigation measures recommended by the FEIS, including those related to the FWS Biological Opinion (Tr. 12775).

KR-36

Kern River also notes that the above statement addresses the mitigation measures recommended in Volume III of the FEIS but does not mention the mitigation measures contained in Volumes I and II. The FEIS in Volume III, on page 3-4 states:

> "To adequately protect the environment, all of the mitigation measures outlined in Section 4 of both Volumes I and II shall be recommended for incorporation into the FERC certificate."

The statement in Volume III, page 1-103, should be corrected to include measures contained in the FEIS Volumes I and II.

On page 1-104, the Draft states:

> "WyCal has suggested that since the FEIR/S concluded that on environmental grounds the Kern River or Mojave systems could be made acceptable (via staff's recommended mitigation measures contained in Volume III of the FEIR/S), the WyCal proposal would also be acceptable on environmental grounds since its proposal

KR-36 Comment accepted, see revised language in Section 3 of the Vol. III Supplement.

KR-36 (cont.) is simply a combination of the other two acceptable routes."

This statement should be revised to include mitigation measures contained in Volumes I and II of the FEIS. The statement is also substantively incorrect, since the WyCal proposal includes segments of 55 miles in Wyoming and 102 miles from where the WyCal proposed route leaves the Kern River proposed route near Las Vegas to the intersection with the Mojave proposed route west of Topock which are not included in either the Kern River or Mojave proposed systems. In addition, the WyCal proposal has different compressor station locations and horsepower requirements.

KR-37 Also, on page 1-104, the Draft states:

> "It can also be viewed that because WyCal proposes to receive gas from both the supplies of Kern River and Mojave, it offers more flexibility of service and that the cost for this increased flexibility is additional impact to environmental resources. Staff also seeks comment on this philosophy."

This statement is incorrect and introduces an issue of fact that should be subject to a hearing. WyCal proposes a system designed to transport 400 MMcfd of gas from the Overthrust area of Wyoming and 250 MMcfd from interconnections with El Paso and Transwestern. If shippers want more than 400 MMcfd of firm transportation from the Overthrust area, WyCal could not provide it. On the other hand, if shippers want firm transportation

KR-37 **Thank you for your perspective.**

KR-37 (cont.) service via WyCal's proposed interconnections with El Paso and Transwestern, it cannot be provided because there is no incremental capacity upstream of WyCal being proposed by El Paso or Transwestern to provide such firm service to WyCal. See Draft WyCal Supplement, Vol. VI, page 2-6. At best, WyCal can receive gas on an interruptible basis from El Paso and Transwestern. Thus, WyCal is proposing to construct 200 more miles of line than Kern River to provide an interruptible service from Topock, which interruptible service can already be provided by the utilities.

Kern River has demonstrated that its system can receive supplies from Canada, the Rocky Mountain area and the same supply areas as WyCal and can provide service on a firm basis. (Exh. KR-1, pp. 11-12). Moreover, the only new transportation link for California provided by WyCal is its proposed line to the Overthrust area, which will have a capacity of only 400 MMcfd as compared to Kern River's initial capacity of 700 MMcfd. In addition, Kern River can, with added compression only, expand its transportation capacity to 1,000 MMcfd.

KR-38 3.0 Conclusions and Recommendations

On page 3-6, the Draft discusses a route modification which is outside the one-mile corridor studied in the FEIR/S. An additional route modification has been suggested by the City of Henderson on the Henderson Variation of the Kern River system since publication of the FEIR/S. This modification is described in Exhibit MP-182, Sheet 2 and Transcript Volume 90, pp. 12688-91. Testimony by Harold G. Gillit and Kris R. Hohenshelt indicates that since the modification is so similar to the studied variation, the FEIS should be sufficient for it. (Exh. KR-171, p. 6; Exh. KR-172, p. 11-12). This modification should be included in the Supplemental EIS.

Respectfully submitted,

WRIGHT & TALISMAN, P.C.

By
Harold L. Talisman
Michael J. Thompson
Paul M. Flynn

1050 17th Street, N.W., Suite 600
Washington, D.C. 20036
(202) 331-1194

Terence J. Collins, Esq.
P.O. Box 2511
Houston, Texas 77252

Craig R. Rich, Esq.
P.O. Box 8900
Salt Lake City, UT 84108

Attorneys for
Kern River Gas Transmission Company

September 9, 1988

KR-38 See response to KR-24.

Appendix A

KERN RIVER GAS TRANSMISSION COMPANY'S MOTION TO REJECT OR, ALTERNATIVELY, ANSWER TO SOUTHERN CALIFORNIA GAS COMPANY'S SUPPLEMENT TO REQUEST FOR ACTION ON MOTION

KR-60

[illegible] 22

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

In the Matters of	)	
	)	
Mojave Pipeline Company, *et al.*	)	Docket Nos. CP85-437-000, *et al.*
	)	
Wyoming-California Pipeline Company	)	Docket Nos. CP87-479-000, CP87-480-000

KERN RIVER GAS TRANSMISSION COMPANY'S MOTION TO REJECT OR, ALTERNATIVELY, ANSWER TO SOUTHERN CALIFORNIA GAS COMPANY'S SUPPLEMENT TO REQUEST FOR ACTION ON MOTION

Pursuant to Rules 212 and 213 of the Commission's Rules of Practice and Procedure, 18 C.F.R. §§ 385.212, 385.213, Kern River Gas Transmission Company (Kern River) moves the Commission to reject or, in the alternative, hereby answers Southern California Gas Company's (SoCal's) "supplement" of May 10, 1988 to its previous request for action on its motion of January 13, 1988. That motion seeks an order directing the Commission's Staff to supplement the final environmental impact statement (EIS) prepared by the Staff regarding the projects at issue in the Mojave Pipeline Company proceedings.

Rejection of SoCal's pleading is appropriate because the "supplement" is not authorized by the Commission's Rules of Practice and because, in Kern River's view, the Commission clearly must take some action to emphasize that the Commission's rules provide that issues raised by motions are joined by the answers to those motions and that decisions are based on those pleadings only. The Commission recently has been barraged in these proceedings with pleadings variously styled as "supplements", "requests for action," and "supplements to requests for action" related to previously-filed motions to which answers were long ago submitted. The submission of such pleadings serves no apparent purpose other than consumption of the parties' and the Commission's time, money and paper. The Commission should stop it by rejecting SoCal's latest missive.

In the event that the Commission does not reject SoCal's supplement, Kern River submits the following response to SoCal's pleading. 1/ The Commission should deny the relief that SoCal seeks. SoCal's incessant harping that the Mojave/Kern River EIS should be supplemented is a transparent effort to defeat Kern River's bid to provide competition in the California marketplace by regulatory delay, rather than through fair competition in that marketplace. SoCal's efforts to stifle competition by misuse of the Commission's procedures and of the National Environmental Policy Act (NEPA) should not be sanctioned by the Commission.

1/ The Commission's rules do not provide for "supplements" to motions or to "requests for action." SoCal has acknowledged, however, that its pleading must be treated as a motion by submitting its supplement "pursuant to Rule 212." Therefore, if the supplement is not rejected, Kern River is entitled to answer it pursuant to Rule 213.

In pleadings filed on January 28 and April 21, 1988, Kern River addressed the arguments raised by SoCal's original motion for supplementation of the EIS and in its subsequent 'request for action' on that motion. Kern River will not repeat those arguments in this pleading. In its supplement to its request for action, however, SoCal asserts that a letter dated April 15, 1988 from the Region IX office of the United States Environmental Protection Agency ("Region IX") to the Commission's Acting Secretary supports SoCal's view that the EIS should be supplemented. SoCal requests that the Commission consider Region IX's views in its evaluation of SoCal's motion of January 14. 2/

SoCal's effort to construe Region IX's letter of April 15 as a basis for supplementation of the Mojave/Kern River EIS is unfounded. There is nothing in the letter to suggest that Region IX regards supplementation as appropriate. Surely if Region IX believed that the Mojave/Kern River EIS should be supplemented, it would have said so. Although Region IX presents some comments on the final EIS, the only action it requests (at page 2) is that "the potential environmental impact associated with each

---

2/ SoCal represents the April 15 letter as a letter from the Director of "EPA's Office of External Affairs." Supplement at 3. However, it is obvious from the letter itself that it is from the Office of External Affairs of EPA's Region IX office. Kern River notes that portions of the proposed projects and alternatives would affect areas within EPA's Regions VI, VIII and X, as well as Region IX.

alternative be fully considered during the certification process." This request will be fully satisfied, since the potential environmental impacts of all reasonable alternatives have been and will continue to be considered throughout the Commission's proceedings related to the Mojave and Kern River applications. Environmental impact statements are judged by a rule of reason and are not required to achieve perfection in the eyes of all observers. NRDC v. Tennessee Valley Authority, 502 F.2d 852, 853-54 (6th Cir. 1974).

SoCal's position is likewise unsupported by Region IX's specific comments on the EIS. For example, Region IX comments that the issues of need for an interstate pipeline, as well as those of "gas supply and firmness of service" should have been examined in the EIS. Although an EIS frequently is the primary decisionmaking document at other agencies, that simply is not the case at this Commission in proceedings in which hearings are held pursuant to Section 7 of the NGA.

Using the Mojave proceeding as an example, this Commission uses an EIS as a document in which it gathers information concerning the environmental impacts of the proposed projects and alternatives and develops measures for mitigating those impacts. Other issues, including the need for the proposed projects and the quantity and quality of service that the projects can provide, are evaluated in detail on the record in proceedings somewhat separately from development of the EIS. This evaluation is functionally more than the equivalent of discussing the "need" issue in the EIS, since all evidence before the Commission on that question is subjected to the scrutiny of cross-examination. The entire record, including the EIS, is then reviewed by the Commission in reaching its decision. The Commission's entire proceedings are open to the public and its decisions will be recorded in documents which will be published and available to the public. The CEQ's regulations require only that an EIS "shall briefly specify" the purpose and need for the proposed action. 40 C.F.R. § 1502.13. Section 1.1 of Volume I of the Mojave/Kern River EIS clearly satisfies this standard.

The Mojave/Kern River EIS is but one part of a massive record that the Commission will consider in issuing its decisions on the Kern River and Mojave applications. It is unnecessary for all factors to be considered in the context of the EIS alone. All that NEPA requires is that a statement analyzing environmental impacts be prepared and that those impacts be considered along with other factors in the Commission's decisions. The procedures which have been and will be followed in these proceedings will provide for the fulfillment of those requirements.

The Commission has addressed the points made by Region IX in its Comments 1 and 2 in previous cases. For

example, in Pacific Alaska LNG Company, 9 FERC ¶ 61,334 (1979) the Sierra Club argued to the Commission that the failure of the EIS in that case to "analyze the need for the project violates Section 102" of NEPA. The Commission's response was simple and direct:

> We disagree. Our final decision will address this issue in detail, based on the record in the proceeding. All interested parties have had an opportunity to contribute to that record and our decision will therefore be based on full information. This procedure fully comports with the letter and spirit of NEPA.

9 FERC at 61,709 (citation omitted).

Region IX states correctly in its Comment 2 that 40 C.F.R. § 1502.23 requires that an EIS indicate the considerations, "including factors not related to environmental quality," which would be important to the agency's decision. The Mojave/Kern River EIS fully complies with this standard. At page 1-8 of Volume I, the authors of the EIS describe the non-environmental considerations that the Commission will take into account in making its decision.

SoCal's apparent view of Region IX's Comment 3 similarly provides no basis for supplementation of the Mojave/Kern River EIS. Region IX states that the EIS should assess the impacts of each project "in terms of the specific beneficial uses and water quality standards included in the state basin plans." The EIS in fact does take beneficial uses and water quality standards into account. At page FA-84 of Volume V of the EIS, the authors point out that beneficial uses were generally considered in the discussion in the EIS of potential impacts to various resources. In addition, one of the criteria for assessing the significance of impacts of the projects on surface water was whether the quality of each stream would be degraded to the point that it does not meet all federal and state water quality standards. Mojave/Kern River EIS, Vol. I, p. 4-18; Vol. II, p. 4-19. These water quality standards are the principal focus of the state water quality plans that are required by § 303 of the Clean Water Act, 33 U.S.C. § 1313. Perhaps more importantly, recommended mitigation measure no. 35 at page 3-11 of Volume III of the EIS requires that a successful applicant undertake an anti-degradation analysis of water quality "to assure that the highest statutory and regulatory requirements" are achieved in all streams affected by the project. This plan must be acceptable to the appropriate regulatory agency. Thus, the EIS has provided for the implementation of mitigation measures that will alleviate violations of water quality standards, recognizing that all activities by successful applicants will be subject to the development of detailed implementation and mitigation plans, particularly in the context of obtaining necessary permits under the National Pollution Discharge Elimination System (NPDES) program. The

inclusion of this recommendation also satisfies the requirement of 40 C.F.R. § 1506.2(d) that an EIS include discussion of how to resolve potential conflicts with state plans or standards.

In addition, Region IX has provided no basis for requiring the EIS to go into the level of detail on uses and water quality standards that it seemingly suggests in its Comment 3. If Region IX's comment is (as SoCal seems to believe) that the EIS should evaluate impacts on actual and potential beneficial uses and on water quality standards in each stream that would be crossed by the nearly 2,000 miles of pipelines that are analyzed in the Mojave/Kern River EIS, the water quality sections of the document probably would grow to nearly the equivalent of a separate volume. CEQ's NEPA regulations state that EIS's shall be "analytic rather than encyclopedic," 40 C.F.R. § 1502.2(a), and that even in extraordinary circumstances, "shall normally be less than 300 pages." Id. § 1502.7. The type of analysis that SoCal apparently would have the Commission undertake almost certainly could not be reconciled with these requirements, particularly in the context of a document of such broad scope as the Mojave/Kern River EIS.

Region IX's final comment about the Mojave/Kern River EIS is that Region IX is unable to determine from the EIS whether dredge and fill activities will meet EPA's Clean

Water Act § 404(b)(1) guidelines 3/ for dredge and fill permits issued by the U.S. Army Corps of Engineers. Region IX does not explain, however, why it apparently believes that the EIS should enable it to make that determination. The EIS must be adequate to support the decisions that are based upon it. This Commission does not issue dredge and fill permits under § 404 of the Clean Water Act. 4/

EPA's § 404 guidelines apply to the selection of disposal sites for dredge and fill materials and require the consideration of practicable alternatives to sites under consideration. 40 C.F.R. § 230.2(a). Because this Commission's decision will not select disposal sites for dredge and fill material, it need not consider reasonable and practicable alternatives to proposed sites. Such sites would be selected by the Corps of Engineers after § 404 permit applications are filed. Such applications will not be filed until and unless an applicant is certificated and determines that it will build its project.

Moreover, dredge and fill activities can be carried out under general permits pursuant to § 404 of the Clean Water Act, particularly the Corps of Engineers' nationwide permit. See 33 C.F.R. § 330.1. The EIS recognizes at page 1-16 of Volume I (Table 1.2-1) that stream crossings by successful applicants may be made either under the Corps of Engineers' nationwide permit or under individual § 404 permits. For its part, Kern River has stated on the record that it intends to construct its crossings under the nationwide permit. Exh. KR-37 at 17 (Prepared Rebuttal Testimony of Kris R. Hohenshelt). EPA's regulations at 40 C.F.R. § 230.7 require the nationwide permit to be issued in compliance with EPA's § 404 guidelines. Therefore, any activities carried out under the rubric of the nationwide permit are per se consistent with those guidelines. Thus, further consideration of the guidelines will be appropriate only if, as, and when applications are made for individual § 404 permits.

Finally, Kern River notes that Region IX's comment on the Mojave/Kern River EIS with respect to the § 404 guidelines is really just a restatement of its comment regarding consideration in the EIS of the need for the projects and their ability to provide firm supplies of gas to the EOR market. Compare Comment 4, ¶ 3, with Comments 1 and 2. Decisions on § 404 permits will be made after this Commission's decision has been issued. Even if any individual § 404 permits are required, the entire record before this Commission will be available to the Corps of Engineers, along with the Commission's decision, for use by the Corps in reaching its conclusions. That record includes an exhaustive evaluation of the ability of all alternatives to meet the EOR market's requirements for firm gas supplies.

3/ 40 C.F.R. Part 230.

4/ 33 U.S.C. § 1344.

Therefore, Region IX's Comment 4, like its other comments, provides no basis for SoCal's request that the Commission require supplementation of the Mojave/Kern River EIS.

For the reasons stated above, Kern River submits that the Commission should reject SoCal's "supplement" to its request for action on its motion for an order requiring supplementation of the Mojave/Kern River EIS. In the alternative that the "supplement" is not rejected, the Commission should consider Kern River's foregoing answer and, for the reasons stated here and in Kern River's answers of January 28 and April 21, 1988, the Commission should deny SoCal's motion for an order requiring that the EIS be supplemented.

Respectfully submitted,

WRIGHT & TALISMAN, P.C.

By Paul Flynn
Harold L. Talisman
Michael J. Thompson
Paul M. Flynn

1050 17th Street, N.W.
Suite 600
Washington, D.C. 20036
(202) 331-1194

Craig R. Rich, Esq.
P.O. Box 8900
Salt Lake City, UT 84108

Terence J. Collins, Esq.
James Ruoff, Esq.
P.O. Box 2511
Houston, TX 77252

Attorneys for
Kern River Gas Transmission Company

May 25, 1988

CERTIFICATE OF SERVICE

I hereby certify that I have on this day served the foregoing document upon each person designated on the restricted service list compiled by the Presiding Judge in this proceeding.

Dated at Washington, D.C., this 25th day of May, 1988.

Paul Flynn
Paul M. Flynn

WRIGHT & TALISMAN, P.C.
1050 17th Street, N.W.
Suite 600
Washington, D.C. 20036
(202) 331-1194

Of Counsel for
Kern River Gas Transmission Company

KR-66

Appendix B

ATTACHMENT TO KERN RIVER'S
RESPONSES TO PHASE II DATA REQUESTS
SOCAL REQUEST NO. 17

Attachment to Kern River's
Responses to Phase II Data Requests

SoCal Request No. 17

KERN RIVER PIPELINE PROJECT PROPOSAL
FISHERY VALUE OF MAJOR UTAH PERENNIAL STREAMS 1/

PRIMARY ROUTE

County	Quad Sheet Number	Stream	State Classification Rainbow/cutthroat
Summit	13 II AP 230	Chalk Creek (Sec 2)	h-cw-3 My 1 - Jn 15
	15 IX AP 230A	South Fork Chalk Creek (Sec 1)	h-cw-3 My 1 - Jn 15
	17 IX AP 340	Whites Creek (Sec 1)	h-cw-3 My 1 - Jn 15
	17 IX AP	Weber River (Sec 10)	h-cw-3 Oct 1 - Mr 1
	17 IX AP 330	Beaver Creek (Sec 2)	c-cw-2 Oct 1 - Mr 1
Wasatch	18 X AF	Provo River (Sec 9)	c-cw-2 Oct 1 - Mr 1
	18 X AF 090A	Big Pole Creek (Sec 1)	h-cw-3 My 1 - Jn 15
	20 X AF 090A	Lake Creek (Sec 3)	~~h-cw-3~~ class 6 - no concern
	II BE 060 M 11 ← ~~20~~ upper	Strawberry River (Sec 8,7,5,4)	h-cw-~~3~~ 2B My 1 - Jn 15
	21 II BE 060 M 11 H	Mill B Canyon (Sec 1)	h-cw-3 My 1 - Jn 15
	21 II BE 060 M 11 E	Hobble Creek (Sec 1)	h-cw-3 My 1 - Jn 15
Utah	25 X AK 020C	Wanrhodes Canyon (Sec 1)	h-cw-3 Oct 1 - Mr 1
	25 X AK 020B	Little Diamond Creek (Sec 1)	h-cw-3 Oct 1 - Mr 1
	25 X AK 020	Diamond Fork (Sec 1)	h-cw-3 Oct 1 - Mr 1
	25 X AK 020	Diamond Fork (Sec 1)	h-cw-3 Oct 1 - Mr 1
	26 X AK	Spanish Fork (Sec 5)	h-cw-3 Oct 1 - Mr 1
	27 X AK 030C	Bennie Creek (Sec 1 or 2) ?	h-cw-3 Oct 1 - Mr 1
	27 X AK 030E	Nebo Creek (Sec 1)	h-cw-3 Oct 1 - Mr 1
Juab	29 X AR 010	Hop Creek (Sec 1)	h-cw-3 Oct 1 - Mr 1
	29 X AR	Salt Creek (Sec 3)	h-cw-3 Oct 1 - Mr 1
	30 X AR	Salt Creek (Sec 2)	h-cw-3 Oct 1 - Mr 1 Brown/Brook
	? 32 X AA	Sevier River (Sec 5)	h-cw-3 no concern

WASATCH VARIATION

County	Quad Sheet Number	Stream	State Classification
Summit	2 IX AP 230A	South Fork Chalk Creek (Sec 1)	h-cw-3 My 1 - Jn 15
	3 IX AP	Weber River (Sec 7)	h-cw-~~3~~ 2 Oct 1 - Mr 1
Morgan	5 IX AP 150	East Canyon Creek (Sec 2)	c-cw-2 Oct 1 - Mr 1
	5 IX AP 150B	Sheep Canyon (Sec 4)	h-cw-3 No data
	5 IX AP 150A	Hardscrabble Creek (Sec 1)	h-cw-3 My 1 - Jn 15
	7 IV AA 050	Mill Creek (Sec 4)	~~h-cw-3~~ class 6 - no concern
Davis	8 II AA	Jordan River (Sec 1)	~~h-cw-3~~ class 5 - no concern
Juab	21 VI AA	Sevier River (Sec 5)	h-cw-3 no concern

1/ Fishery value of major perennial streams on the primary route and the Wasatch Variation as identified in the Mojave-Kern River-El Dorado Draft Environmental Impact Report/Statement, Volume II, Table 3.1-9 and 3.3-3, respectively.

---

of nearby buildings, stores, houses, or places of business before any blasting is done. Contractor will notify all ranchers in sufficient time to protect any livestock nearby before any blasting is done. Where necessary to prevent damage to nearby property, Contractor will blanket shots. Great care must be exercised by Contractor to prevent damage to underground structures, such as cables, casing, pipelines, wells, springs, and water courses. Contractor will clean up, remove, and dispose of blasting debris and broken rock to the satisfaction of the landowner, tenant, and Exxon.

Important wildlife areas will be avoided during the periods listed below. The contractor will immediately notify Exxon if any of the referenced areas are discovered on or near the right-of-way.

AREA	PERIOD
Sage grouse leks	March 1 to June 30
Golden eagle nests (within 1/2 mile)	February 1 to July 15
Osprey nests (with 1/2 mile)	April 15 to August 15
Prairie falcon nests (within 1/2 mile)	March 15 to August 1
Merlin nests (within 1/2 mile)	April 15 to August 15
Ferruginous hawk nests (within 1/2 mile)	March 15 to July 15
Cooper's hawk nests (within 1/2 mile)	April 1 to August 15
Burrowing owl nests (within 1/2 mile)	April 15 to July 15
Swainson's hawk nests (within 1/2 mile)	April 1 to July 15
Cutthroat-Rainbow Trout (stream crossings)	April 15 to July 10
Brown & Brook Trout (stream crossings)	Sept. 1 to Nov. 1

7-6

From: Construction and Use Plan For FEED Gas Trunkline - Exxon

Appendix C

RECORD OF TELEPHONE CONVERSATION WITH DR. JOHN NAKATA RE STATE LINE FAULT

RECORD OF TELEPHONE CONVERSATION

DATE 24 AUG 88 JOB NO 14641-004-01

RECORDED BY: KEATON OWNER/CLIENT: KERN RIVER

TALKED WITH: JOHN NAKATA OF USGS Menlo Park

NATURE OF CALL: INCOMING ☐ OUTGOING ☒ 415-329-4962

ROUTE TO: INFORMATION ACTION

MAIN SUBJECT OF CALL: STATE LINE FAULT

ITEMS DISCUSSED:

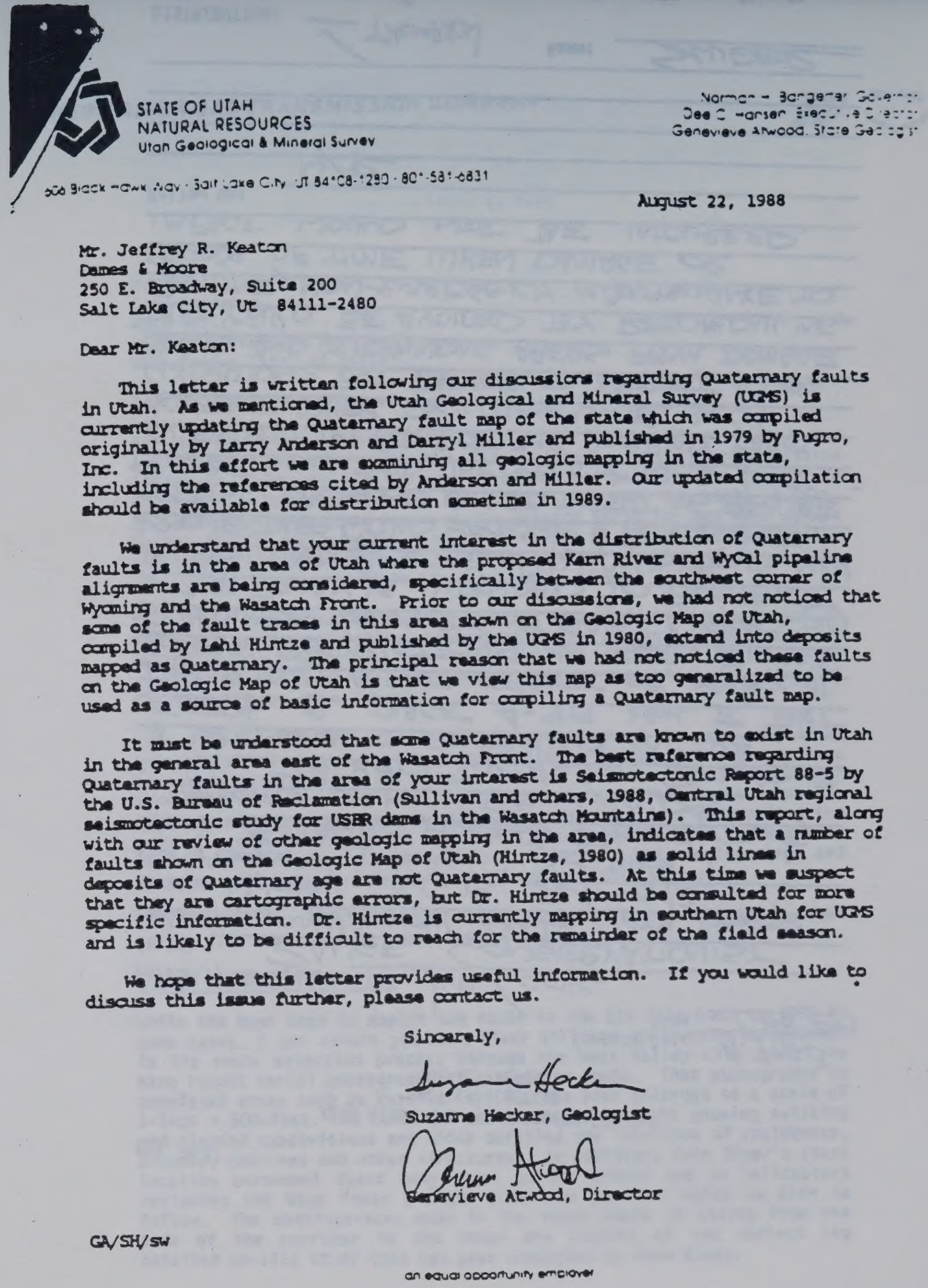
The State Line fault is shown on Jennings (1975) fault ma of Ca. This map was used by Nakata et al (1982) as a reference to their Quaternary fault map of the Basin & Range Province. However, the State Line fault doesnt appear on Nakata et al (1982).

John Nakata checked his files and found that th State line fault was omitted from the first virsion of hi map, The reviewers (Bruce Schell - Fugro and Charles Jennings-CDMG), reviewed that part of the map didnt make any comments about it being omitted.

John Nakata doesnt think there was a reason for omitting the State line fault. He thinks it was a blunder on their part and that, because the fault was show as a Quaternary fault on Jennings (1975), it sh have been shown on his map also.

Appendix D

LETTER FROM UTAH GEOLOGICAL AND MINERAL SURVEY DATED AUGUST 22, 1988



STATE OF UTAH
NATURAL RESOURCES
Utah Geological & Mineral Survey

606 Black Hawk Way · Salt Lake City, UT 84108-1280 · 801-581-6831

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Genevieve Atwood, State Geologist

August 22, 1988

Mr. Jeffrey R. Keaton
Dames & Moore
250 E. Broadway, Suite 200
Salt Lake City, Ut 84111-2480

Dear Mr. Keaton:

This letter is written following our discussions regarding Quaternary faults in Utah. As we mentioned, the Utah Geological and Mineral Survey (UGMS) is currently updating the Quaternary fault map of the state which was compiled originally by Larry Anderson and Darryl Miller and published in 1979 by Fugro, Inc. In this effort we are examining all geologic mapping in the state, including the references cited by Anderson and Miller. Our updated compilation should be available for distribution sometime in 1989.

We understand that your current interest in the distribution of Quaternary faults is in the area of Utah where the proposed Kern River and WyCal pipeline alignments are being considered, specifically between the southwest corner of Wyoming and the Wasatch Front. Prior to our discussions, we had not noticed that some of the fault traces in this area shown on the Geologic Map of Utah, compiled by Lehi Hintze and published by the UGMS in 1980, extend into deposits mapped as Quaternary. The principal reason that we had not noticed these faults on the Geologic Map of Utah is that we view this map as too generalized to be used as a source of basic information for compiling a Quaternary fault map.

It must be understood that some Quaternary faults are known to exist in Utah in the general area east of the Wasatch Front. The best reference regarding Quaternary faults in the area of your interest is Seismotectonic Report 88-5 by the U.S. Bureau of Reclamation (Sullivan and others, 1988, Central Utah regional seismotectonic study for USBR dams in the Wasatch Mountains). This report, along with our review of other geologic mapping in the area, indicates that a number of faults shown on the Geologic Map of Utah (Hintze, 1980) as solid lines in deposits of Quaternary age are not Quaternary faults. At this time we suspect that they are cartographic errors, but Dr. Hintze should be consulted for more specific information. Dr. Hintze is currently mapping in southern Utah for UGMS and is likely to be difficult to reach for the remainder of the field season.

We hope that this letter provides useful information. If you would like to discuss this issue further, please contact us.

Sincerely,

Suzanne Hecker

Suzanne Hecker, Geologist

Genevieve Atwood

Genevieve Atwood, Director

GA/SH/sw

an equal opportunity employer

Appendix E

RECORD OF TELEPHONE CONVERSATION WITH FOREST SERVICE RE SEASONAL ACCESS ON FOREST SERVICE LANDS

REV. 4/87

KERN RIVER GAS TRANSMISSION COMPANY
SALT LAKE OFFICE
CONTACT REPORT

Contact Date 4.7.88
Time 1:05 PM

Person(s) Contacted: JIM COOK

Title: RANGE CONSERVATIONIST

Company/Agency: WASATCH-CACHE NAT'L FOREST

Location & Telephone: SLC @ 524-5042

Type of Contact: ___ **Meeting** X **Telecon**

Subject: SEASONAL ACCESS RESTRICTIONS IMPOSED ON USFS LANDS

Summary: TALKED WITH JIM REGARDING A STATEMENT CONTAINED IN THE FEIS @ PAGE 4-98, VOL II, THAT DEALS WITH THE EFFECT OF SEASONAL ACCESS RESTRICTIONS ON KERN RIVER'S SCHEDULED DELIVERY OF GAS. I ASKED HIM IF THE POLICY IS INTENDED TO RESTRICT ACCESS UNDER EMERGENCY CONDITIONS SUCH AS ONE THAT WOULD REQUIRE A REDUCTION OF OPERATING PRESSURE UNDER THREAT OF PIPELINE FAILURE. COOK SAID THE POLICY WAS NOT INTENDED TO RESTRICT THE COMPANY FROM ACCESS TO THIER FACILITIES UNDER SUCH CONDITIONS BUT RATHER TO PROTECT ACCESS ROADS AND SURROUNDING AREAS FROM DAMAGE THAT COULD BE AVOIDED BY RESCHEDULING ROUTINE, NON-EMERGENCY MAINTENANCE TO PERIODS OF TIME WHEN DAMAGE OR IMPACT WOULD NOT BE INCURRED.

Follow Up: N/R

Name: SLUDER

DISTRIBUTION: ✓ THOMPSON

Appendix F

LETTER DATED APRIL 5, 1988
TO WEST VALLEY CITY

KERN RIVER GAS TRANSMISSION COMPANY

April 5, 1988

Mr. Paul T. Morris
City Attorney
West Valley City
2470 South Redwood Road
West Valley City, UT 84119

Dear Mr. Morris:

As you know, Kern River Gas Transmission Company (Kern River) has applied for authority with the Federal Energy Regulatory Commission (FERC) to construct and operate an 850-mile pipeline from Wyoming to California. Routings for this project cross through the state of Utah. In particular, a routing known as the Wasatch Variation has been deemed by the FERC's environmental impact statement to be the environmentally preferable alignment through the north central portion of the state. This variation passes within the city limits of West Valley.

Kern River has noted with great interest West Valley City's Motion to Intervene in the regulatory proceedings and in particular the issues of public safety, joint use of lands and the detail of environmental analysis performed to date that were raised in the motion and attendant testimony of Mr. John Newman.

Kern River would like the opportunity to present to you additional information in regard to the above-mentioned issues that may not have been made available to you through the EIS process. Toward that end, Kern River personnel met with you and other city officials on March 22, 1988, to discuss your concerns and to present the facts surrounding the project's conception and the benefit it brings to the area. A document was given to you which described some of the engineering and environmental considerations that will go into this project.

This letter further discusses those specific issues raised in West Valley City's motion and submitted testimony.

USE OF APPROPRIATE MAPPING

While the maps used to depict the route in the EIS date back to 1970 in some cases, I can assure you Kern River utilized up-to-date information in its route selection process through the West Valley City area. We have recent aerial photography of the entire route. That photography in populated areas such as West Valley City has been enlarged to a scale of 1-inch = 500-feet. We obtained county ownership plats showing existing and planned subdivisions and which detailed the locations of residences, schools, churches and other structures. In addition, Kern River's route location personnel spent many hours on the ground and in helicopters reviewing the Utah Power & Light powerline corridor which we plan to follow. The modifications made to the route where it shifts from one side of the corridor to the other are results of and reflect the detailed on-site study that has been conducted by Kern River.

PROXIMITY TO SCHOOLS

As is presently planned, the pipeline would be in proximity to the following schools in your area:

Structure	Proximity
Future School at 3000 South 6000 West	1,100 Feet
Whittier Elementary	800 Feet
Hunter Jr. High	1,750 Feet
Hunter High (Under Construction)	800 Feet
Hillside Elementary	800 Feet
Silver Hills Elementary	700 Feet

As I explained in our meeting, the pipeline in all areas through West Valley City, including those sections in proximity to the above schools, will be designed to Department of Transportation Class III standards. Under these criteria safety factors are established. The safety factor reflects the degree to which the pipeline is over-designed when all the stresses resulting from internal pressure, construction stresses such as bending and external stresses induced by vehicle loads, possible earth movements, etc. are accounted for. For example, in a Class III location, the pipeline will be designed to withstand 200% of the total expected stress level.

INDUSTRY SAFETY RECORD

The following statement was presented on March 22, 1988, before the U.S. House of Representatives' Appropriations Subcommittee on Transportation regarding the President's budget request for the Department of Transportation's Research and Special Programs Administration (RSPA) for the fiscal year 1989:

> The Natural Gas Pipeline Safety Act (NGPSA) directs the Secretary to establish safety regulations for facilities used in the transportation of natural gas and other gases by pipeline. Similar authority, the Hazardous Liquid Pipeline Safety Act (HLPSA) applies to the transportation of hazardous liquids by pipeline. RSPA's safety jurisdiction over pipelines covers more than 3,200 operators and 1.5 million miles of gas pipelines, and over 170 operators and more than 154,000 miles of hazardous liquid pipelines which transport petroleum, petroleum products, and anhydrous ammonia. Pipelines are our safest mode of transportation. In 1987, there were no fatalities resulting from incidents occurring on natural gas transmission pipelines. Of the 150 natural gas distribution pipeline incidents reported nationwide, there were 8 fatalities.

Transmission pipelines are those such as the one Kern River proposes to build. Distribution pipelines are those that deliver gas throughout a city such as the Mountain Fuel lines that are currently serving West Valley City. A summary of the number of gas pipeline accidents and related casualties over a ten-year period is attached.

The success of the natural gas and hazardous liquid pipeline safety programs is reflected in the overall decline in gas and liquid pipeline failures since 1978. Outside force damage, principally damage by mechanized excavation equipment, continues to be the largest single cause of pipeline failures. To address this problem, the gas pipeline regulations now require operators to have a damage prevention program.

RSPA encourages operator participation in a utility locator system so that persons contemplating excavation can use the "one call" utility locator to receive information on the exact location of pipelines in that area.

I am enclosing for your information a "one call" pamphlet distributed by Northwest Pipeline Corporation to landowners, contractors and municiple offices in the areas in which the company operates. This type of program is similar to that of other companies in the industry and one that is contemplated for use by Kern River.

I am also enclosing a pamphlet published by the Interstate Natural Gas Association of America (INGAA) providing further details and statistics concerning the safety record of the natural gas transportation industry.

A PIPELINE AND COMPATIBLE LAND USES

West Valley City has raised questions regarding the compatibility of the proposed pipeline with such land uses as a linear park (apparently under consideration within the powerline corridor) and an industrial park. Kern River's design will accommodate the corridor becoming a linear park, should that eventuality occur. I know of several instances on Northwest Pipeline's system where the pipeline passes through parks, golf courses and other recreational areas. The only restrictions by the company would involve placement of permanent structures such as restrooms, gazebos, etc. and planting of trees, impounding of water or excavation within our proposed easement which is generally 50 feet wide.

I would note that, based on your recent indication that the gravel pit operations at 4800 South may soon be converted to a golf course, our routing will probably be changed to follow the corridor between 4600 South and 5400 South, therefore, avoiding the planned industrial park altogether. Alternatively, in the industrial park, minor routing changes can probably be made to follow anticipated corridors for roadways, powerlines, utilities, etc., once they are determined, in order to resolve potential conflicts.

PIPELINE EASEMENT RESTRICTIONS

I am enclosing a preliminary draft of a proposed Kern River Right-of-Way Agreement covering the typical stipulations between grantor and grantee. Although this document will not be finalized and approved for some time it will provide you with some insight to the type of terms Kern River will negotiate with those landowners in your city.

In summary, I hope this will help answer at least some of the questions and issues that were raised by West Valley City in its Motion to Intervene and in the testimony of Mr. John Newman.

If you have any further questions or comments, please do not hesitate to contact me.

Sincerely,

KERN RIVER GAS TRANSMISSION CORPORATION

R. L. Sluder

R. L. Sluder
Supervisor, Field Engineering

RLS/kl

Enclsoures

bcc: E. Muse
C. Wadlington
E. F. Harris
H. G. Gillit
File 4.6

SUMMARY OF GAS PIPELINE ACCIDENTS AND CASUALTIES
REPORTED FROM 1978-1987 AS REQUIRED BY 49 CFR PART 191

Transmission and Gathering

Report Year	Failures	Fatalities	Injuries
1978	533	11	86
1979	450	12	93
1980	529	2	41
1981	495	6	6
1982	520	11	41
1983	453	2	25
1984	255	9	40
1985	127	6	12
1986	83	4	20
1987	68	0	13

Distribution

Report Year	Failures	Fatalities	Injuries
1978	1,555	20	320
1979	1,520	33	313
1980	1,467	9	269
1981	1,128	10	73
1982	1,191	20	225
1983	1,127	10	220
1984	747	26	189
1985	204	20	94
1986	136	19	86
1987	159	8	81*

* 18 injuries occurred as the result of one accident.

KR-74

Call us

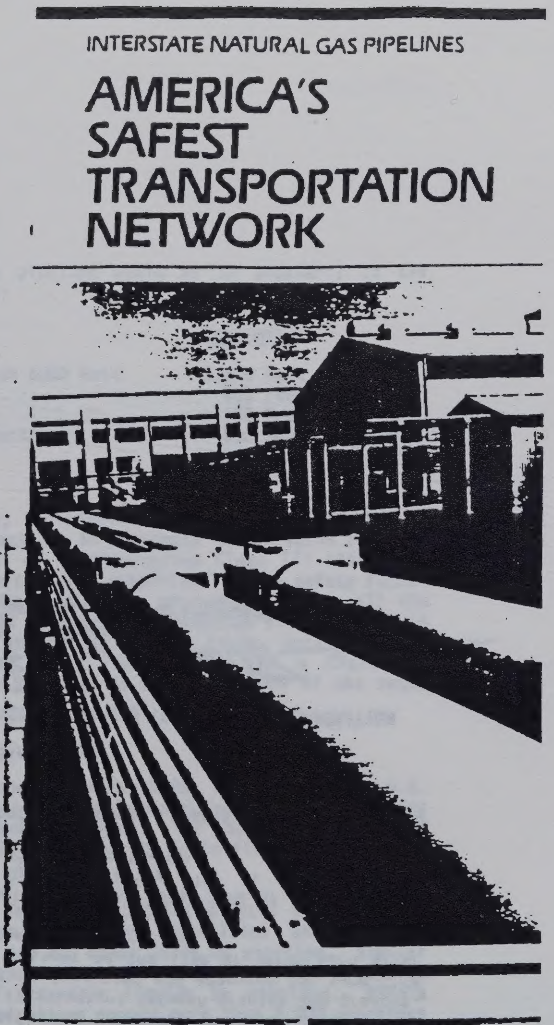
Before

You Dig Near Our Pipeline

We'll Locate Our Line For You

NORTHWEST PIPELINE CORPORATION

A Natural Gas Transmission Company



INTERSTATE NATURAL GAS PIPELINES

AMERICA'S SAFEST TRANSPORTATION NETWORK

Appendix G

ADDITIONAL COMMENTS ON DRAFT WYCAL SUPPLEMENT CONCERNING ACCESS ROADS FOR THE KERN RIVER ROUTE AND WASATCH AND WEST STRAWBERRY VARIATIONS

Additional Comments on Draft WyCal Supplement Concerning Access Roads For the Kern River Route and Wasatch and West Strawberry Variations.

These comments review segments of the three routes that are identified in the Mojave/Kern River FEIR/S and in the Draft Supplemental EIS as having poor access or being "essentially unroaded." These include mileposts 110 to 142 on the proposed route and the Wasatch Variation route from the crossing of Interstate 80 west to the route's descent into the Salt Lake Valley. The EIS did not identify a specific segment of the West Strawberry Variation that it considers to be without existing access, so these comments consider the entire variation. Kern River's engineers have concluded on the basis of on-site inpsections, study of maps and aerial photographs and their knowledge and experience in pipeline construction that all of the roads identified below are suitable for use for access during construction in their present state or after improvement, and that the relevant sections of each of these three routes could be built without construction of any new access roads.

The milepost numbers described below are taken from Kern River's May 1987 quadrangles, on which the mileposts for the proposed route and the Wasatch Variation (but not the West Strawberry Variation) have been reconciled to the photogrammetic survey data developed by Tobin Research. Therefore, the mileposts stated below may not correspond with mileposts as stated in the EIS. Kern River previously provided these maps to the Staff, however.

1. Proposed Route

At approximately MP 110.25, the route encounters a dirt road and follows it for approximately one mile to the south. From the point where the route first encounters this road, the road trends northwest to an intersection with State Road 169, which in turn goes into Heber City. This and several of the other roads discussed here are also shown on a map produced by Mojave in response to Kern River's Phase II data request no. 40.

At about MP 112.5, the route crosses a dirt road that runs east and west and which intersects about one-quarter mile west of the route another dirt road which runs south in the Strawberry River Valley for approximately ten miles to an intersection with U.S. Highway 40 (about MP 122). This becomes an improved dirt road at approximately MP 118 and maintains that status south to U.S. 40. This road in the Strawberry River Valley in many locations is only one-eighth to one-quarter mile west of Kern River's route. In addition, dirt roads which interconnect with the road in the Strawberry River Valley are crossed by the route at approximately MP 114.5, MP 115.5, MP 116.5 and again at about MP 118. It should be noted that the route in this area moves down off ridges into very gentle terrain near the Strawberry River at approximately MP 118 and remains in such terrain until about MP 120.5. In this area, the right-of-way could be used for access with no need for additional roads.

The route climbs a relatively steep slope beginning at about MP 120.5, then crosses a plateau and descends another relatively steep slope to the crossing of U.S. 40 at about MP 122. The ROW itself would provide sufficient access for these slopes and plateau.

From the crossing of U.S. Highway 40, the route proceeds to the southwest, following a fairly gently sloping ridgetop for approximately three miles to its crossing of Strawberry Ridge and descent onto Pump Ridge at about MP 125. The right-of-way could be used for access from the crossing of U.S. 40 to the top of Pump Ridge.

Near MP 125 the route crosses a dirt road which runs to the southeast. As shown on Mojave's and other maps, this road intersects with other dirt roads that can be followed east and then north to intersections with U.S. Highway 40.

Near MP 126, the route on Pump Ridge crosses a road shown on the quad map as a light-duty road. This road is suitable for bringing in work crews, but not for heavy hauls. It could provide access from two directions. First, the road proceeds to the northwest from Kern River's route and approximately two miles west of the route turns to the southwest, following the left fork of Hobble Creek to the southwest several miles, where, as shown on Mojave's map, it becomes a paved road. This road connects to another paved road near Powder House Mountain, which proceeds to the west into Springville, Utah, west of the mountains.

The road crossed at MP 126 also can be followed to the south from where Kern River's route crosses it, along Halls Fork and then Diamond Fork Canyon all the way to U.S. Highway 50 (near MP 147). As shown on Mojave's map, this road is paved from about MP 142 south to U.S. 50.

At about MP 132, the proposed route crosses another dirt road which likewise can be used for access from two directions. This road runs west for approximately three miles, where it becomes a paved road, as shown on Mojave's map. From there, it proceeds to the west out of the mountains into the valley near Springville. This road would require some improvement, but about two-thirds of it already has been improved to the necessary extent.

A road crossed at about MP 132-132.5 likewise can be followed to the east to intersect with the road mentioned two paragraphs above that runs through Diamond Fork Canyon and out to U.S. 50.

At approximately MP 141-141.5, the proposed route crosses a dirt road in Wanrhodes Canyon. This road can be followed to the south to intersect the existing paved road in Diamond Fork Canyon, which in turn runs to the southwest to intersect with U.S. 50. Kern River also crosses the road in Diamond Fork Canyon itself at about MP 145.5 and crosses U.S. 50 at about MP 147.

2. Wasatch Variation

This analysis begins at the Variation's crossing of Interstate 80 near the Weber River, at approximately MP 87 (note that mileposts are measured from the origination of the system at Muddy Creek, not from the origination of the Wasatch Variation at approximately MP 73 on the proposed route). Kern River's alignment begins following the existing Mountain Fuel 20-inch pipeline from a point east of I-80 and follows it through the mountains all the way to the point where Kern River departs from the Ward Canyon Utility Corridor at Holbrook Canyon, approximately 21 miles west of I-80.

About 1 to 1.25 miles west of I-80, the Variation crosses a dirt road in Lewis Canyon which can be followed to the east and then south to an interconnection with an interchange with I-80 near Coalville.

Another one mile or so west of I-80 (about MP89), at the intersection of Red Rock Canyon and Carruth Canyon, the Variation would cross a dirt road which can be followed to the northeast to I-80. The same road also can be followed to the southwest, then back to the east, to intersect with the dirt road in Lewis Canyon that is mentioned in the preceding paragraph. That dirt road in turn can be followed into Coalville.

At about MP 91, the Variation crosses two dirt roads which can be followed north, then east, to connect to the other dirt roads described above, which lead out to I-80 or into Coalville.

In the segment from about MP 92-92.5, the Variation crosses two dirt roads which converge north of the route into a single road that runs north in Franklin Canyon to the Weber River Valley, near I-84 and the Union Pacific Railroad. (Note that I-84 is not shown at the north end of Franklin Canyon on the USGS quad of this portion of the Variation because it had not yet been built there when the map was made. However, Kern River map 17 in Volume IV of the EIS shows that I-84 runs through that area and could be reached from the dirt road in Franklin Canyon.)

Between about MP 94 and 96, the Variation would cross 6 to 8 dirt roads, all of which connect to other roads that can be followed either south and west to Utah State Route 65 near East Canyon Reservoir and/or north and west to roads that lead to State Route 65 in Hillman Hollow.

The Variation crosses State Route 65 (Dixie Hollow Road) at about MP 97, less than one mile north of the convergence of State Routes 65 and 66 into State Route 65.

Between MP 97.5 and 98.5, the Variation crosses three dirt roads, all of which can be followed to the south to intersections with State Route 66 near East Canyon Reservoir.

The Variation crosses State Route 66 near MP 101 in East Canyon.

Between MP 102 and 104, the Variation crosses five dirt roads, all of which can be followed north to intersections with State Route 66 in East Canyon.

At about MP 108, the Variation crosses a dirt road that can be followed to the north/northeast along Hardscrabble Creek to its convergence with a light-duty road, which in turn proceeds further to the northeast into the Town of Porterville at an intersection with State Route 66 in East Canyon.

From MP 108 to about MP 115, the Variation is unroaded, but follows the Mountain Fuel line (and the Bountiful power line) to about MP 112. Kern River believes that the Mountain Fuel right-of-way and/or the road leading out along Hardscrabble Creek to Porterville could be used for access to the portion of the route that presently lacks roads from MP 108 to MP 112, where Kern River would leave the Ward Canyon Corridor and the Mountain Fuel pipeline at the top of Holbrook Canyon. Access for construction in Holbrook and Mill Creek Canyons is described at page 19 of Kern River's comments on the Draft Supplement.

At about MP 111, the Variation crosses a dirt road that connects about two miles to the north with Skyline Drive. This road would require improvement, but would provide good access from Skyline Drive to the ROW.

At MP 115 or so, the Variation crosses a dirt road in Mill Creek Canyon that runs to the west into Bountiful. In North Canyon and in Hooper Canyon, the ROW will be used for access.

Just east of MP 120, the Variation crosses a dirt road labeled "Bonneville Drive" on the quad map, which can be followed north/northwest into North Salt Lake.

The Variation enters the Salt Lake Valley at the crossing of Interstate 15 at approximately MP 121.

3. West Strawberry Variation

From its point of origin near MP 119.1 on the mainline southward for about four miles, the Variation follows a dirt road in flat terrain in the Strawberry River Valley to the intersection of both the dirt road and the pipeline with U.S. Route 40 at MP 123. (Note that mileposts on this Variation also are measured from the origin of the system at Muddy Creek.)

At about MP 124-124.5, the route crosses two dirt roads which converge just east of the pipeline and which can be followed to the northeast to intersections with U.S. 40.

At about MP 126.5, the Variation crosses a dirt road which can be followed to the northeast approximately one-half mile to an intersection with a paved road, as shown on Mojave's map. That road in turn can be followed to the north to intersect with U.S. 40.

At about MP 128.5, the Variation crosses a dirt road which can be followed approximately three-quarters of a mile east to connect to the road mentioned in the previous paragraph, which runs north to intersect with U.S. 40.

At about MP 130 and MP 131.5, the Variation crosses two dirt roads. Both of these roads intersect less than one mile east of the route with the road mentioned above that can be followed to the north to U.S. 40.

At about MP 132, the Variation crosses a dirt road which can be followed to the west less than one mile to an intersection with the same road that crosses the route at MP 131.5, thereby providing a connection to U.S. 40.

From about MP 132.5 to 135, the Variation roughly follows a dirt road in reasonably gentle terrain. This dirt road turns away from the Variation just north of MP 132 to proceed eastward to connect to the same dirt road that the route crosses at MP 132. That dirt road, as noted above, in turn connects to other roads that connect to U.S. 40.

At MP 135, the Variation crosses an improved dirt road which can be followed to the southwest along Indian Creek about 20 miles or so to an intersection with U.S. 50 near Narrows Siding and Mill Fork. The same road also can be followed to the northeast, where it connects with other roads near Strawberry Reservoir. Those roads in turn can be followed to the northeast several miles to intersections with U.S. 40.

At about MP 141, near the Wasatch-Utah County line, the route crosses a dirt road which can be followed to the northwest to connect to the road along Indian Creek that was mentioned in the preceding paragraph.

From about MP 141 to near MP 144, the Variation would traverse Partridge Ridge. There are no roads in this area and the terrain would seem to preclude construction of any new ones. The ROW would be used for access in this area.

Just south of MP 144, the Variation would begin to follow a dirt road in Tie Fork Canyon. It would follow that dirt road for approximately 3.5 miles to where the Variation crosses the Denver and Rio Grande Western Railroad and U.S. 50 in Spanish Fork Canyon.

At about MP 148.5, the Variation again begins to roughly follow a dirt road. From MP 148.5, this road can be followed to the east and then north to an intersection with U.S. 50. The Variation generally follows this dirt road to about MP 152.5 and the right-of-way itself could be used for access throughout this area.

From about MP 155.25 to near MP 156, the Variation generally follows a dirt road on Mill Fork Ridge. This road can be followed from MP 156 to the south and then east to a dirt road called Skyline Drive. Skyline Drive in turn can be followed along Left Fork Clear Creek to the northeast to an eventual interconnection with U.S. 50, approximately one mile east of the location of the Variation's crossing of that highway.

Between approximately MP 156.5 and 157.25 and again between about MP 157.75 and 159, the pipeline generally would follow Skyline Drive. This dirt road connects to the northeast with U.S. 50 in the manner described in the preceding paragraph.

At MP 159, the pipeline crosses the intersection of Skyline Drive with Browns Peak Trail, another dirt road. The pipeline would follow Browns Peak Trail along Jones Ridge to about MP 161.

KR-80

After crossing over Browns Peak, the Variation again would cross Browns Peak Trail near MP 163.

Near MP 164, the Variation again crosses Browns Peak Trail. About two miles west of this crossing, the Trail connects to another dirt road that runs southwest, then west to Indianola, and then south to intersect with U.S. Highway 89.

The Variation crosses U.S. 89 at MP 168.5. The right-of-way could be used for access from this crossing northward approximately 2.5 to 3 miles, where steep terrain may require coming in from the other direction. Likewise, the right-of-way could be used for access southward from U.S. 89 for several miles.

At MP 171, the route crosses a dirt road which can be followed south and west through Uinta Gulch and Big Hollow to the Town of Fountain Green, on State Route 11.

At MP 173, the Variation crosses a dirt road that can be followed to the southeast to connect to the same road through Uinta Gulch and Big Hollow into Fountain Green.

From near MP 175 to about MP 177, the Variation generally follows a dirt road in Water Hollow which has been improved beginning at a point just south of the Variation near MP 177. That road in turn runs to the southwest down Water Hollow to intersect State Route 11.

The Variation crosses dirt roads at MP 178.5 and 179.5 that also connect to the road in Water Hollow that intersects with State Route 11.

At MP 181, the Variation crosses State Route 11 and generally follows it to the northwest to the point where it rejoins the proposed route at MP 182.9 on the Variation (MP 175. on the proposed route).

1001-232.57-

COST ESTIMATES
WASATCH VARIATION AND ALTERNATIVES

KERN RIVER TRANSMISSION COMPANY

CONSTRUCTION COST ESTIMATE

PROJECT: 14.3 MILE, 36" PIPELINE, WASATCH VARIATION

PREPARED [illegible]
PAGE 1 OF 1, SCHEDULE NO. [illegible]

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT COST	AMOUNT	TOTAL DOLLARS
1	TOTAL RIGHT OF WAY COST	LOT	1		233.300	
2	ENVIRONMENTAL	LOT	1		76.000	
3	PRELIMINARY SURVEY	LOT	1		21.500	
	TOTAL					331.[illegible]
	MATERIAL					
4	36" O.D. X .462" W.T., GR. X-65 PIPE	L.F.	70.110	48.99	3.355.330	
5	36" O.D. X .554" W.T., GR. X-65 PIPE	L.F.	5.100	52.00	265.200	
6	36" O.D. X .663" W.T., GR. X-65 PIPE	L.F.	400	53.39	21.290	
7	PIPE COATING	L.F.	75.610	7.30	552.000	
8	CONCRETE COATING	L.F.				
9	CASING	L.F.	698	116.05	81.000	
10	ROAD CROSSING	L.F.	729	3.75	2.730	
11	STATION VALVE ASSEMBLY	EACH				
12	MAINLINE VALVE ASSEMBLY	EACH	1		130.300	
13	LAUNCHER/RECEIVER ASSEMBLY	EACH				
14	AQUEDUCT CROSSING	L.F.				
15	MISCELLANEOUS, TAX AND FREIGHT	LOT	1		670.500	
	TOTAL MATERIAL					5.058.400
	INSTALLATION					
16	LAY, STRING AND TEST	L.F.	75.610	71.35	5.394.700	
17	CASING	L.F.	698	346.35	242.100	
18	ROAD CROSSING	L.F.	726	265.14	190.900	
19	STATION VALVE ASSEMBLY	EACH				
20	MAINLINE VALVE ASSEMBLY	EACH	1		42.300	
21	LAUNCHER/RECEIVER ASSEMBLY	EACH				
22	RIVER CROSSING	EACH				
23	AQUEDUCT CROSSING	L.F.				
24	PERFORMANCE BOND	LOT	1		28.200	
25	X-RAY	LOT	1		150.300	
	TOTAL INSTALLATION					[illegible]
	OTHER COSTS					
26	COMPANY SUPERVISION AND INSPECTION	LOT	1			[illegible]
27	CONTINGENCIES	LOT	1			412.300
	TOTAL DIRECT COST - 1988					$ 12.[illegible]

KERN RIVER TRANSMISSION COMPANY

CONSTRUCTION COST ESTIMATE

PROJECT 14.9 MILE, 36" PIPELINE, BOUNTIFUL BLVD.

PREPARED 08/31/88

PAGE 1 OF 1, SCHEDULE NO. 2

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT COST	AMOUNT	TOTAL DOLLARS
1	TOTAL RIGHT OF WAY COST	LOT	1		1.031.100	
2	ENVIRONMENTAL	LOT	1		78.700	
3	PRELIMINARY SURVEY	LOT	1		22.300	
	TOTAL					1.132.100
	MATERIAL					
4	36" O.D. X .462" W.T., GR. X-65 PIPE	L.F.	44.450	48.00	2.133.600	
5	36" O.D. X .554" W.T., GR. X-65 PIPE	L.F.	5.100	52.00	265.200	
6	36" O.D. X .665" W.T., GR. X-65 PIPE	L.F.	28.960	53.00	1.534.880	
7	PIPE COATING	L.F.	78.510	7.30	573.100	
8	CONCRETE COATING	L.F.				
9	CASING	L.F.	698	116.05	81.000	
10	ROAD CROSSING	L.F.	1.720	3.79	6.500	
11	STATION VALVE ASSEMBLY	EACH				
12	MAINLINE VALVE ASSEMBLY	EACH	2	100.500.00	201.000	
13	LAUNCHER/RECEIVER ASSEMBLY	EACH				
14	AQUEDUCT CROSSING	L.F.				
15	MISCELLANEOUS, TAX AND FREIGHT	LOT	1		764.600	
	TOTAL MATERIAL					5.559.960
	INSTALLATION					
16	LAY, STRING AND TEST	L.F.	78.510	117.11	9.194.300	
17	CASING	L.F.	698	346.35	242.100	
18	ROAD CROSSING	L.F.	1.720	265.17	456.100	
19	STATION VALVE ASSEMBLY	EACH				
20	MAINLINE VALVE ASSEMBLY	EACH	2	42.850.00	85.700	
21	LAUNCHER/RECEIVER ASSEMBLY	EACH				
22	RIVER CROSSING	EACH				
23	AQUEDUCT CROSSING	L.F.				
24	PERFORMANCE BOND	LOT	1		47.800	
25	X-RAY	LOT	1		154.400	
	TOTAL INSTALLATION					10.180.400
	OTHER COSTS					
26	COMPANY SUPERVISION AND INSPECTION	LOT	1			[illegible]
27	CONTINGENCIES	LOT	1			[illegible]
	TOTAL DIRECT COST - 1988					$ 18.331.300

KERN RIVER TRANSMISSION COMPANY

CONSTRUCTION COST ESTIMATE

PROJECT 15.6 MILE, 36" PIPELINE, PAGES LANE

PREPARED 08/31/88

PAGE 1 OF 1, SCHEDULE NO. [illegible]

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT COST	AMOUNT	TOTAL DOLLARS
1	TOTAL RIGHT OF WAY COST	LOT	1		1.172.400	
2	ENVIRONMENTAL	LOT	1		82.600	
3	PRELIMINARY SURVEY	LOT	1		23.400	
	TOTAL					1.278.400
	MATERIAL					
4	36" O.D. X .462" W.T., GR. X-65 PIPE	L.F.	28.920	48.00	1.388.100	
5	36" O.D. X .554" W.T., GR. X-65 PIPE	L.F.	38.650	52.00	2.009.800	
6	36" O.D. X .665" W.T., GR. X-65 PIPE	L.F.	14.700	53.00	779.100	
7	PIPE COATING	L.F.	82.270	7.30	600.600	
8	CONCRETE COATING	L.F.	38.650	26.24	1.014.200	
9	CASING	L.F.	700	116.00	81.200	
10	ROAD CROSSING	L.F.	3.300	3.79	12.500	
11	STATION VALVE ASSEMBLY	EACH				
12	MAINLINE VALVE ASSEMBLY	EACH	2	100.500.00	201.000	
13	LAUNCHER/RECEIVER ASSEMBLY	EACH				
14	AQUEDUCT CROSSING	L.F.				
15	MISCELLANEOUS, TAX AND FREIGHT	LOT	1		863.600	
	TOTAL MATERIAL					6.950.100
	INSTALLATION					
16	LAY, STRING AND TEST	L.F.	82.270	110.46	9.087.500	
17	CASING	L.F.	700	346.35	242.400	
18	ROAD CROSSING	L.F.	3.300	265.18	875.100	
19	STATION VALVE ASSEMBLY	EACH				
20	MAINLINE VALVE ASSEMBLY	EACH	2	42.850.00	85.700	
21	LAUNCHER/RECEIVER ASSEMBLY	EACH				
22	RIVER CROSSING	EACH				
23	AQUEDUCT CROSSING	L.F.				
24	PERFORMANCE BOND	LOT	1		49.500	
25	X-RAY	LOT	1		159.400	
	TOTAL INSTALLATION					[illegible]
	OTHER COSTS					
26	COMPANY SUPERVISION AND INSPECTION	LOT	1			[illegible]
27	CONTINGENCIES	LOT	1			[illegible]
	TOTAL DIRECT COST - 1988					$ [illegible]

KERN RIVER TRANSMISSION COMPANY

CONSTRUCTION COST ESTIMATE

PROJECT 16.8 MILE, 36" PIPELINE, GRANDVIEW REAM

PREPARED 10/31/88
PAGE 1 OF 1, SCHEDULE NO. 2

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT COST	AMOUNT	TOTAL DOLLARS
1	TOTAL RIGHT OF WAY COST	LOT	1		258.900	
2	ENVIRONMENTAL	LOT	1		89.000	
3	PRELIMINARY SURVEY	LOT	1		25.200	
	TOTAL					373.100
	MATERIAL					
4	36" O.D. X .462" W.T., GR. X-65 PIPE	L.F.	83,040	45.00	3,736.800	
5	36" O.D. X .554" W.T., GR. X-65 PIPE	L.F.	5.100	52.00	265.200	
6	36" O.D. X .665" W.T., GR. X-65 PIPE	L.F.	400	53.00	21.200	
7	PIPE COATING	L.F.	88.540	7.30	646.300	
8	CONCRETE COATING	L.F.				
9	CASING	L.F.	698	116.05	81.000	
10	ROAD CROSSING	L.F.	729	3.75	2.700	
11	STATION VALVE ASSEMBLY	EACH				
12	MAINLINE VALVE ASSEMBLY	EACH	2	100.500.00	201.000	
13	LAUNCHER/RECEIVER ASSEMBLY	EACH				
14	AQUEDUCT CROSSING	L.F.				
15	MISCELLANEOUS, TAX AND FREIGHT	LOT	1		769.300	
	TOTAL MATERIAL					5,723.500
	INSTALLATION					
16	LAY, STRING AND TEST	L.F.	88.540	129.49	11.465.200	
17	CASING	L.F.	698	346.35	242.100	
18	ROAD CROSSING	L.F.	729	265.14	193.300	
19	STATION VALVE ASSEMBLY	EACH				
20	MAINLINE VALVE ASSEMBLY	EACH	2	42.850.00	85.700	
21	LAUNCHER/RECEIVER ASSEMBLY	EACH				
22	RIVER CROSSING	EACH				
23	AQUEDUCT CROSSING	L.F.				
24	PERFORMANCE BOND	LOT	1		57.500	
25	X-RAY	LOT	1		117.300	
	TOTAL INSTALLATION					12,161.100
	OTHER COSTS					
26	COMPANY SUPERVISION AND INSPECTION	LOT	1			[illegible]
27	CONTINGENCIES	LOT	1			761.400
	TOTAL DIRECT COST - 1988					$ [illegible]

KERN RIVER TRANSMISSION COMPANY

CONSTRUCTION COST ESTIMATE

PROJECT 20.4 MILE, 36" PIPELINE, BOUNTIFUL REAM

PREPARED 10/31/88
PAGE 1 OF 1, SCHEDULE NO. 2

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT COST	AMOUNT	TOTAL DOLLARS
1	TOTAL RIGHT OF WAY COST	LOT	1		345.500	
2	ENVIRONMENTAL	LOT	1		160.300	
3	PRELIMINARY SURVEY	LOT	1		28.600	
	TOTAL					534.400
	MATERIAL					
4	36" O.D. X .462" W.T., GR. X-65 PIPE	L.F.	53.160	48.00	2.551.700	
5	36" O.D. X .554" W.T., GR. X-65 PIPE	L.F.	51.110	52.00	2.657.700	
6	36" O.D. X .665" W.T., GR. X-65 PIPE	L.F.	3.500	53.00	185.500	
7	PIPE COATING	L.F.	107.770	7.30	786.700	
8	CONCRETE COATING	L.F.	51.110	26.24	1,341.100	
9	CASING	L.F.	700	116.00	81.200	
10	ROAD CROSSING	L.F.	1.500	3.80	5.700	
11	STATION VALVE ASSEMBLY	EACH				
12	MAINLINE VALVE ASSEMBLY	EACH	2	100.500.00	201.000	
13	LAUNCHER/RECEIVER ASSEMBLY	EACH				
14	AQUEDUCT CROSSING	L.F.				
15	MISCELLANEOUS, TAX AND FREIGHT	LOT	1		1,096.100	
	TOTAL MATERIAL					8.906.700
	INSTALLATION					
16	LAY, STRING AND TEST	L.F.	107.770	71.51	7.706.600	
17	CASING	L.F.	700	346.35	242.400	
18	ROAD CROSSING	L.F.	1.500	265.20	397.800	
19	STATION VALVE ASSEMBLY	EACH				
20	MAINLINE VALVE ASSEMBLY	EACH	2	42.850.00	85.700	
21	LAUNCHER/RECEIVER ASSEMBLY	EACH				
22	RIVER CROSSING	EACH				
23	AQUEDUCT CROSSING	L.F.				
24	PERFORMANCE BOND	LOT	1		40.600	
25	X-RAY	LOT	1		145.300	
	TOTAL INSTALLATION					[illegible]
	OTHER COSTS					
26	COMPANY SUPERVISION AND INSPECTION	LOT	1			[illegible]
27	CONTINGENCIES	LOT	1			[illegible]
	TOTAL DIRECT COST - 1988					$ [illegible]

APPENDIX I

REPORT OF
JEFFREY R. KEATON
DATED AUGUST 25, 1988

DAMES & MOORE

August 25, 1988

Mr. Robert L. Sluder
Kern River Gas Transmission Company
P.O. Box 8900
Salt Lake City, Utah 84108-0900

Dear Bob:

Transmitted with this letter is are three copies of my comments to the draft supplemental EIS on the WyCal Pipeline project as you requested in your letter dated August 10, 1988. I have addressed the six issue identified in your letter by first summarizing the statement with a reference to the volume and page in the DEIS and then commenting on the validity of the statement and comparison of alternatives. As you can see in the letter from Suzanne Hecker (geologist with the Utah Geological and Mineral Survey) regarding Quaternary faults east of the Wasatch Front, I have addressed one of the Phase II testamony issues brought up by Mojave's witness Page.

If you have questions or require additonal information, please contact me.

Sincerely,
Dames & Moore

Jeffrey R. Keaton

Jeffrey R. Keaton
Senior Engineering Geologist

s/
3 copies submitted
cc: Dean Hargis
Enclosures:
Draft comments on WyCal DEIS
Record of Telephone Conversation
Letter from UGMS

Seismic Analysis along Nevada/California Line 1
    Statement from the DEIS (Volume VI, p. 3-41 and 3-42) 1
    Comment - Adequacey of the DEIS 1
Wasatch Variation crossing of the Wasatch fault 1
    Statements from the DEIS (Volume III, p. 1-51, 1-80, 1-84, and 1-88) 1
    Comments - Validity of statements and comparison of alterntives 2
Likelihood of landslides and debris flows generated by the pipeline 3
    Statement from the DEIS (Volume III, p. 1-53) 3
    Comments - Validity of statement and comparison of alternatives 3
Likelihood of landslides and debris flows damaging the pipeline 5
    Statement from the DEIS (Volume VI, p. 4-42) 5
    Comments - Validity of statement and comparison of alternatives 5
System safety and reliability 8
    Statement from DEIS (Volume VI, p. 4-64 and 4-65) 8
    Comments - Validity of statement and comparison of alternatives 8
Cumulative impacts 10
    Statement from DEIS (Volume VI, p. 4-77) 10
    Comments - Validity of statement and comparison of alternatives 11
References 12

1. Seismic Analysis along Nevada/California Line
    1. Statement from the DEIS (Volume VI, p. 3-41 and 3-42)

The DEIS states that the North Las Vegas Variation (NLV) is located in the Basin & Range Province near the state line separating Nevada and California and that this area does not have any known active faults of Quaternary age or younger according to a publication by Nakata and others (1982, USGS OFR 82-579).

    2. Comment - Adequacey of the DEIS

It is true that Nakata and others (1982) show no Quaternary faults along the state line; however, the Fault Map of California (Jennings, 1975) does show a Quaternary fault, named the State Line fault, which parallels the NLV variation for about 6 miles. Furthermore, a map by Clark and others (1984) showing late Quaternary faults in California does show a fault in the position of the State Line fault shown by Jennings (1975). Dr. Nakata was contacted regarding the omission of the State Line fault on his compilation. As described in the attached Record of Telephone Conversation dated 24 August 1988, Dr. Nakata checked his files and learned that the State Line fault was omitted on his original compilation which he sent to several people (including Dr. Charles Jennings of the California Division of Mines and Geology) for review. Dr. Nakata does not believe that the State Line fault was omitted for any reason; he believes it was an error which none of the reviewers caught. Dr. Nakata believes that the State Line fault should have been included on his map because it was shown on the map by Jennings (1975). This belief is supported by the inclusion of the State Line fault on the more recent map of Quaternary faults in California by Clark and others (1984). Therefore, the State Line fault should be addressed in the DEIS even though it is not shown on the 1982 map.

2. Wasatch Variation crossing of the Wasatch fault
    1. Statements from the DEIS (Volume III, p. 1-51, 1-80, 1-84, and 1-88)

The DEIS comments on the Wasatch fault crossing of the Kern River Wasatch Variation (p. 1-51), the Bountiful Boulevard Alternative (p. 1-80), the Pages Lane Alternative (p. 1-84), and the Bountiful Peak Alternative (p. 1-88) as if the Wasatch fault were identical at each of the places it would be crossed.

2. Comments - Validity of statements and comparison of alternatives

It is important to recognize that the Wasatch fault zone will be crossed by the Wasatch Variation and alternatives at the western base of the Wasatch Range; however, the character of the fault zone is different at the places where the alternatives cross it. The most recent and detailed mapping of the Wasatch fault zone in Davis County is unpublished mapping by the U.S. Geological Survey (A.R. Nelson, 1987). Although this mapping is unpublished, it is on file at the offices of the Davis County Planning Department in Farmington, Utah; the County Geologist, Mr. Mike Lowe, has the U.S.G.S. mapping. This mapping shows that the Kern River Wasatch Variation misses all mapped surface traces of the Wasatch fault. Furthermore, the Bountiful Boulevard Alternative runs parallel to and up slope from traces of the Wasatch fault over most of its length after it reaches the Bonneville Shoreline. The unpublished mapping shows a fault trace very close to or crossing the Bountiful Boulevard Alternative on the north side of Hooper Canyon.

The Pages Lane Alternative will cross a clear and definite trace of the Wasatch fault in the south part of Centerville at about Mile Post PL 43.8. The Bountiful Peak Alternative will cross the Wasatch fault in the vicinity of Mile Post BP 47. The fault is not well defined in this area because of the presence of a large landslide (slump) which complicates the surface expression of the fault.

For purposes of comparison, it is important to recognize that the Wasatch fault is segmented, as described by Machette and others (1987). The Kern River Wasatch Variation crosses the Wasatch fault zone at the boundary separating the Weber segment to the north and the Salt Lake City segment to the south. The Pages Lane Alternative and the Bountiful Peak Alternative cross the Weber segment where it is a discrete surface fault trace. Machette and others (1987, p. A-26) note that slip rates of 1.0 to 1.5 mm/yr have been calculated from fault scarps in sediments 15,000 years old or younger along the Weber segment. Additionally, they note that slip rates appear to decrease as one approaches the boundaries of the segment. Thus, from a fault rupture standpoint, the Kern River Wasatch Variation appears to be more favorable because the amount of slip generated by the next earthquake on the Weber segment should be less here than across the Pages Lane Alternative or the Bountiful Peak Alternative.

3. Likelihood of landslides and debris flows generated by the pipeline
   1. Statement from the DEIS (Volume III, p. 1-53)

      The DEIS indicates that the Wasatch Variation could generate landslides and debris flows (mudflows) which could have a direct effect upon certain limited residential areas. The DEIS notes that such landslides and debris flows have occurred in the past in the Bountiful City area.
   2. Comments - Validity of statement and comparison of alternatives

      Historic landslides and debris flows which have occurred in the Bountiful City area have been of two types. In the 1920's and 30's, debris flows and other sediment discharges onto alluvial fans were caused by erosion resulting from high intensity, short duration cloudburst rainstorms on abused drainage basins (Bailey and others, 1934). The damaging events of 1983 and 1984 were caused by sustained rapid snowmelt which resulted in debris slides, some of which mobilized into debris flows (Anderson and others, 1984; Olson, 1985). Following the sediment discharges in the 1930's, the abused drainage basins, which had been overgrazed and burned, were protected by prohibiting livestock and burning and reclaimed by constructing contour terraces in areas where severe erosion had occurred. This correction of the sediment yield problem appears to have greatly improved the hillsides because very severe cloudburst rainstorms in the 1940's did not result in significant sediment discharges on the alluvial fans in the Bountiful area. The landslides and debris flows generated by rapid snowmelt in 1983 and 1984 appear to be natural extreme events (Keaton, 1988). It appears that 80 to 90 percent of the sediment discharged onto alluvial fans in 1983 and 1984 along the Wasatch Front was derived from the channels of the streams, not from the hillsides. Consequently, these channels are relatively unlikely to generate additional significant sediment discharges under even extreme conditions until sediment again accumulates in the channels. Furthermore, those canyons which produced significant sediment in the 1920's and 1930's (e.g., Parrish, Ricks [Ford], Davis, Barnard, Steed) produced only modest amounts of sediment in 1983, but those canyons which had not produced sediment in historic time (e.g., Rudd) produced the largest amounts of sediment in 1983. Therefore, those canyons which produced significant sediment in 1983 or 1984 probably will not produce significant sediment discharges again for some period of years.

The availability of sediment is only one factor which contributes to the hazards associated with debris flows. Marsell (1972) identified seven factors which contributed to the snowmelt flooding in Salt Lake City in 1952. Four of these factors occurred in 1983: 1) heavy winter snowpack, 2) saturated soil conditions at the start of winter due to heavy rainfall in the autumn, 3) abnormally low temperatures in the late winter and spring, and 4) sustained high temperatures once melting began. It is important to note that snowmelt flooding occurred along the Wasatch Front in 1922 and 1952 (Marsell, 1972), but no significant slope failures or debris flows for these years are reported in the literature (Keaton, 1988). Therefore, the events of 1983 were caused by historically unprecedented snowmelt conditions. The likelihood that the combination of climatic and soil moisture conditions which occurred in 1983 will occur again in any year is less than 1 in 140 (the number of years since Davis County was first settled).

The Kern River Wasatch Variation alignment was carefully selected so that the pipeline would be situated on primary and secondary ridges, avoiding swales and sidehills. The Bountiful Boulevard Alternative and the Pages Lane Alternative, which follow the Mt. Fuel alignment on the primary ridge between Holbrook and Stone creeks, also avoid swales and sidehills. These alignments are the most favorable of the alternatives with respect to generation of slope instability because the landslides in 1983 and 1984 were generated in swales, not on primary or sedondary ridges (Pack, 1985).

The Bountiful Peak Alternative is unfavorable because it would cross the upper parts of Centerville Canyon (Mile Post BP 41 to 41.8), Parrish Creek (Mile Post BP 41.8 to 42.8), and Ford Canyon (Mile Post BP 42.8 to 44) on very steep sidehills. Additionally, the Bountiful Peak Alternative would cross substantial areas where contour terraces were constructed in the 1930's. Destruction of these terraces, which were constructed to control erosion, seems unwise; however, additional provisions could be made to re-establish the contour terraces after the pipeline was constructed.

4. Likelihood of landslides and debris flows damaging the pipeline
   1. Statement from the DEIS (Volume VI, p. 4-42)

      The DEIS states that "it is conceivable that a debris flow of sufficiently large magnitude to negatively impact the pipeline could develop in the upper portions of the watershed."
   2. Comments - Validity of statement and comparison of alternatives

      The statement from the DEIS was taken from the discussion regarding the Bountiful Boulevard Alternative; however, the issue of potential damage to the pipeline from slope instability (landslides or debris flows) should be discussed for the other alternatives, also.

      The statement from the DEIS suggests that a debris flow discharged from a canyon could damage a pipeline which crosses the canyon mouth. Pipelines were damaged by debris flow discharges in 1983 and 1984 in Davis County. Observations following the 1983 and 1984 debris flows revealed that the stream channels above the alluvial fans were chiefly exposed bedrock, indicating that the stream bed sediments had liquefied and been entrained in the debris flows. The initial reports of these features (Anderson and others, 1984) described the exposed bedrock as created by "scour" by the passing flow; however, debris flow have so much sediment that they do not have a capacity to erode by scour processes. Debris flow processes are better understood now as a result of research conducted in response to the damaging events of 1983 and 1984. Santi (1988) studied the 1984 debris flow which caused damage in Layton (about 14 miles north of Bountiful) and concluded that the weight of the sediment (debris) traveling down the stream channel caused the saturated sediment in channel bed to liquefy, permitting it to become entrained in the debris flow. This is the principal process whereby most of the sediment discharged onto the alluvial fans was obtained from the channels rather than the hillsides. Once the sediment emerged from the canyon mouth, the lack of confinement permitted it to spread out and stop; once it began to spread, it lost its ability to entrain more sediment and it simply buried the existing ground on the alluvial fan. Therefore, debris flow pose different hazards to underground pipelines depending on the position of the pipeline on the alluvial fan or in the stream channel.

      The Kern River Wasatch Variation would cross the channels of

Holbrook Canyon, Mill Creek, North Canyon, and Hooper Canyon well above the alluvial fans; consequently, any debris flows moving down these canyons would be expected to liquefy the stream bed sediments. A pipeline founded in the stream bed sediments probably would be damaged by such processes; however, special installation considerations, such as supporting the pipeline on bedrock and encasing the pipeline in concrete across the stream channels, would cause the pipeline to behave as bedrock, practically eliminating the possibility that it would become entrained with the stream bed sediments. Thus, design considerations can be implemented to fully mitigate this aspect of debris flow hazards. Since the Kern River Wasatch Variation alignment was carefully selected to be on primary or secondary ridges, the likelihood that it would be adversely affected by landslides is very small.

The Bountiful Boulevard Alternative is unfavorable because it would cross the mouths of Holbrook Canyon and Mill Creek in roadway embankments. These embankments were constructed chiefly for roadways and, therefore, are equipped with drainage devices (culverts) which are designed for some specific precipitation/flood event. These embankments would act a dams during periods of high discharge of sediment or water if the capacity of the drainage devices were exceeded either by plugging with debris or by simply excess water flow. Road embankments failed in 1983 in Bountiful, contributing significantly to the magnitude of the damage in the community. The factor of safety for the embankments would be considered inadequate for precipitation/flood events which exceed the design criteria for the drainage devices. Locating pipelines on such embankments should be avoided. The Bountiful Boulevard Alternative also crosses a small dormant landslide (slump) from Mile Post BB 42.1 to 42.4 (Keaton, 1986). This slump has been dormant for at least the last 16,000 years because the Bonneville Shoreline of Lake Bonneville, present at the toe of the slump, is not disturbed. Nonetheless, should the slump become reactivated, the pipeline would be damaged.

The Pages Lane Alternative misses the dormant landslide mentioned above, but crosses Stone Creek at the position of a major embankment. For reasons discussed above, locating pipelines on embankments should be avoided. Thus, the Pages Lane Alternative is unfavorable.

The Bountiful Peak Alternative is unfavorable because it crosses significant areas of steep sidehills and swales in the upper parts of Centerville Canyon, Parrish Creek , and Ford Canyon, as described above. The DEIS notes that "no signs of slope instability were observed along the alternative route ... although slope instability was observed in the mile-wide study area." A study of landslide susceptibility using multispectral and digital topographic data indicates that a significant amount of the Bountiful Peak Alternative lies within areas classified as susceptible to landsliding (Jadkowski, 1987). Jadkowski (1987) subdivides the "landslide susceptible" classification into two map units: 1) susceptible with greater than 75 percent confidence, and 2) susceptible with less than or equal to 75 percent confidence. Much of the Bountiful Peak Alternative is within Jadkowski's (1987) second landslide susceptible classification. It is important to note that Jadkowski's model was developed using the occurrences of the landslides in 1983 and 1984 only as indicators of landslide sites; geology played no role in his model, other than as it is reflected in the multispectral scanner (MSS) Thematic Mapper (TM) data. Therefore, his classification of "landslide susceptible", combined with the location in swales and on steep sidehills, suggests that landslides adversely affecting the pipeline could occur in the future and indicates that the Bountiful Peak Alternative is unfavorable. This is illustrated by the fact that the slope failures in 1983 and 1984 occurred in swales and sidehills. Additionally, the Bountiful Peak Alternative crosses a large dormant landslide (slump) from Mile Post BP 46.1 to 47.3. This slump appears to have been dormant for at least 16,000 years because the Bonneville Shoreline is present on the landslide mass at its appropriate elevation. However, the toe area of this landslide has two active gravel pits where material is being removed. Removal of material from the toe of a landslide reduces the factor of safety and tends to promote reactivation of movement. The response of this dormant landslide during the next major earthquake on the Wasatch fault, particularly on the Weber segment, is uncertain. However, because the surface fault trace is obscure where it passes through the landslide mass, it may be reasonable to expect some movement of the landslide during the next earthquake.

5. System safety and reliability
    1. Statement from DEIS (Volume VI, p. 4-64 and 4-65)

The DEIS states that the first 43 miles of the Wasatch Variation Alternatives cross several known fault zones and rugged terrain with the potential for landslides, and the last 87 miles cross known active faults which have experienced high-intensity seismic activity in the recent past. The DEIS further states that the pipeline will be susceptible to damage which may occur at frequent intervals due to geologic conditions and weather patterns.

    2. Comments - Validity of statement and comparison of alternatives

The DEIS states that the first 43 miles of the Wasatch Variation Alternatives cross "several known fault zones," while last 87 miles cross "known active faults which have experienced high-intensity seismic activities in the recent past". The Bountiful Boulevard Alternative emerges from the Wasatch Range at approximately Mile Post BB 43; thus, it appears that the "first 43 miles of the Wasatch Variation Alternatives" refers to the alignments east of the western base of the Wasatch Range.

The FERC staff's response to Mojave's Phase II Data Request No. 2 indicates that pre-Quaternary faults are not considered to be seismic hazards to the pipeline. The "several known fault zones" in the first 43 miles of the Wasatch Variation are pre-Quaternary, despite Phase II testimony by Mojave's witness. The basis Mojave's witness used for classifying faults on the proposed alignment east of the Wasatch Front as Quaternary faults was the 1980 Geologic Map of Utah by Lehi F. Hintze. These faults were discussed with geologists at the Utah Geological and Mineral Survey who are actively working on geologic hazards. Their comments are summarized in the attached letter dated August 22, 1988.

The Utah Geological and Mineral Survey is currently updating the Quaternary fault map of the state which was originally compiled by Anderson and Miller (1979). They have not used the Geologic Map of Utah as a reference in this update because they do not view it as a suitable source of basic information. Further, the faults classified by Mojave's witness as Quaternary on the basis of the Geologic Map of Utah are considered to be map errors by the Utah Geological and Mineral Survey geologists. Therefore, faults crossed by the Wasatch Variation Alternatives east of the Wasatch Front are pre-Quaternary and do not represent hazards to the pipeline.

The known active faults crossed by the last 87 miles of the Wasatch Variation Alternatives consist of the Wasatch fault zone and the West Valley fault zone in the Bountiful - Salt Lake City area, and a zone of unnamed faults in Little Valley (about 10 miles north-northwest of Scipio). The statement in the DEIS incorrectly implies that "known active faults which have experienced high-intensity seismic activity in the recent past" are present all along the last 87 miles of the Wasatch Variation alignment. In fact, high-intensity seismic activity is interpreted for the Wasatch fault zone on the basis of evidence from trench exposures of the fault of repeated displacement of the ground surface. The West Valley fault zone displays evidence of monoclinal folding of the ground surface with minor step faulting, and may indicate that the seismic activity causing the folding was just intense enough to cause surface deformation (Keaton and others, 1987). The faults in Little Valley display evidence of late Quaternary displacement (Anderson and Miller, 1979), but the reference to high-intensity seismic activity in the recent past seems unfounded.

Fault rupture hazards can be mitigated by engineering measures, including careful orientation of the pipeline across the fault rupture zone and installation of shutdown valves activated by strong ground motion. The probability of surface fault rupture, even on the Wasatch fault zone, during the life of the pipeline is very small. It must be emphasized that the Kern River Wasatch Variation crosses the Wasatch fault at the boundary between the Weber segment to the north and the Salt Lake City segment to the south. Results of research conducted by the U.S. Geological Survey indicate that the amount of offset per earthquake diminishes toward the ends of the segments; thus, the alignments crossing at segment boundaries are expected to experience less offset than alignments crossing in the middle of the segments. The mapping by the U.S. Geological Survey (on file at the Davis County planning office in Farmington) indicates that the Kern River Wasatch Variation alignment does not cross any traces of the Wasatch fault recognizable in the sediments of Lake Bonneville. Therefore, although the

Wasatch fault zone must be present at the western base of the Wasatch Range, if the recent past is an indication of the near future, the probability of fault rupture affecting a pipeline at this position would exceedingly small.

The various alignments of the Wasatch Variation also cross the West Valley fault zone. Results of research conducted on this fault zone (Keaton and others, 1987) indicates that the surface expression of the traces is monoclinal folding with minor step faulting. The folds are approximately 5 feet high in sediments which are about 10,000 years old; the fold on any individual fault trace is distributed across a zone about 15 feet wide. Thus, stresses induced into a buried pipeline by a reactivation of movement on the West Valley fault zone probably would be distributed also. This distribution of stresses would make engineering measures to mitigate the surface rupture hazards easier on the West Valley fault zone than on most other faults where the stresses are concentrated across a narrow, discrete plane of rupture.

The DEIS states that the pipeline will be susceptible to damage which may occur at frequent intervals due to geologic conditions and weather patterns. The Kern River Wasatch Variation alignment was carefully selected to avoid swales and sidehills, thus effectively minimizing potential damage due to ground failure caused by slope instability. Engineering measures are readily available and in common usage for controlling surface and subsurface water; these measures, implemented where appropriate, will further reduce the likelihood of damage to the pipeline due to slope instability (landslides). The WyCal Wasatch Variation Alternatives all have significantly greated exposure to slope instability hazards than does the Kern River Wasatch Variation, as discussed in the comments to statements from the DEIS, Volume VI, p. 4-42.

6. Cumulative impacts

   1. Statement from DEIS (Volume VI, p. 4-77)

The DEIS states that cumulative impacts would occur to land stability where the proposed pipeline would be adjacent to or overlap the Mtn. Fuel pipeline and the Bountiful City electric transmission line. The DEIS further states that these cumulative impacts could result in floods and debris flows into portions of residential areas of south Davis County.

2. Comments - Validity of statement and comparison of alternatives

Techniques are available for minimizing sediment yield from disturbed areas on steep hillsides. Some of these techniques (e.g., contour terraces) were first attempted and proved successful on the western slopes of the Wastach Range in the 1930's following damaging sediment discharges resulting from cloudburst rainstorms on abused watersheds. Other techniques (e.g., subdrains) have been developed over many years of experience in improving slope stability. These methods could be employed at those locations where the risk of significant sediment yield would be reduced.

The Kern River Wasatch Variation alignment was carefully selected so that the pipeline would be situated on primary and secondary ridges, avoiding swales and sidehills. Thus, the major locations of sediment yield will be avoided by route selection. Swales are major locations of sediment yield because they concentrate surface and subsurface water flows; sidehills are major locations of sediment yield because surface water can achieve eroding velocities relatively easily. Primary and secondary ridges are desirable locations for pipeline construction because stable bedrock formations usually are located at relatively shallow depths and surface and subsurface water flows are dispersed. The combination of 1) careful route selection to avoid swales and sidehills and 2) conventional construction techniques to minimize sediment yield and promote rapid revegetation can be used to fully mitigate potential cumulative effects of the proposed pipeline and existing facilities.

The Bountiful Boulevard Alternative and the Pages Lane Alternative follow the Mtn. Fuel alignment on the west side of the Wasatch Range to the base or nearly to the base of the range, respectively. Consequently, the opportunity for cumulative effects would be greater for these alternatives than for the other alternatives which do not follow the existing utility corridor. However, techniques are available to mitigate construction disturbance for several facilities within the same corridor. It is important to note that the Mtn. Fuel pipeline was not damaged in 1983 or 1984. In addition, Jadkowski (1987) shows two landslide sites in 1983 or 1984 (taken from Pack, 1985) at approximately Mile Post BB 41.8, which would be very close to the existing Mtn. Fuel alignment. Jadkowski (1987) shows 37 landslides within one mile of the Mtn. Fuel alignment which occurred in 1983 or 1984. These landslides were chiefly in topographic swales and in some cases on steep sidehills. This observation suggests that the existing pipeline probably had little to do with the distribution of landslides and that the presence of swales and sidehills probably is the important factor.

The Bountiful Peak Alternative crosses significant areas of swales and steep sidehills, including areas where contour terraces were constructed in the 1930's. Therefore, this alternative is unfavorable even though it may avoid some cumulative impact by deviating from the existing Mtn. Fuel corridor.

7. References

Anderson, L.R., Keaton, J.R., Saarinen, T.F., and Wells, W.G., II, 1984, The Utah landslides, debris flows, and floods of May and June 1983: National Academy Press, 96 p.

Anderson, L.W., and Miller, D.G., 1979, Quaternary fault map of Utah: Fugro, Inc., Long Beach, CA, 35 p.

Bailey, R.W., Craddock, G.W., and Becraft, R.J., 1934, Floods and accelerated erosion in northern Utah: U.S. Department of Agriculture Miscellaneous Publication No. 196, 21 p.

Clark, M.M., and others, 1984, Preliminary slip rate table and map of late Quaternary faults of California: U.S. Geological Survey Open-file Report 84-106, 1:1,000,000.

Hintze, L.F., 1980, Geologic Map of Utah: Utah Geological and Mineral Survey, 2 sheets, 1:500,000.

Jadkowski, M.A., 1987, Multispectral remote sensing of lanside susceptible areas: unpublished Ph.D. thesis, Utah State University, 223 p.

Jennings, C.W., 1975, Fault map of California: California Division of Mines & Geology, Map No. 1, 1 sheet, 1:750,000.

Keaton, J.R., 1986, Landslide inventory and preliminary hazard assessment, southeast Davis County, Utah: Association of Engineering Geologists 29th Annual Meeting, San Francisco, CA, Abstracts with Program, p. 53.

Keaton, J.R., Currey, D.R., and Olig, S.J., 1987, Paleoseismicity and earthquake hazards evaluation of the West Valley fault zone, Salt Lake City urban area, Utah: Dames & Moore, unpublished final report submitted to U.S. Geological Survey under contract no. 14-08-0001-22048, 55 p.

Keaton, J.R., 1988, A model for hazards related to sedimentation processes on alluvial fans in Davis County, Utah: unpublished Ph.D. thesis, Texas A&M University, in progress.

Machette, M.N., Personius, S.F., and Nelson, A.R., 1987, Quaternary geology along the Wasatch fault zone: Segmentation, recent investigations, and perliminary conclusions: U.S. Geological Survey Open-file Report 87-585, p. A-1 - A-72.

Marsell, R.E., 1972, Cloudburst and snowmelt floods: in Environmental Geology of the Wasatch Front, 1971, Utah Geological Association Publication 1, p. N1 - N18.

Nakata, J.K, Wentworth, C.M., and Machette, M.N., 1982, Quaternary fault map of the Basin and Range and Rio Grande Rift provinces, Western United States: U.S. Geological Survey Open-file Report 82-579, 2 sheets, 1:2,500,000.

Olson, E.P., 1985, East Layton debris flow: U.S. Department of Agriculture, Forest Service, Region 4, Level 2 case study, 25 p.

Pack, R.T., 1985, Multivariate analysis of relative landslide susceptibility in Davis County, Utah, unpublished Ph.D. thesis, Utah State University, 233 p.

Santi, P.M., 1988, The kinematics of debris flow transport down a canyon: unpublished M.S. thesis, Texas A&M University, 85 p.

RECORD OF TELEPHONE CONVERSATION

DATE 24 AUG 88 JOB NO. 14641-004-01
RECORDED BY: KEATON OWNER/CLIENT: KERN RIVER
TALKED WITH: JOHN NAKATA OF USGS Menlo Park
NATURE OF CALL INCOMING ☐ OUTGOING ☒ 415-329-4962
ROUTE TO: INFORMATION ACTION

MAIN SUBJECT OF CALL: STATE LINE FAULT

ITEMS DISCUSSED:

The State Line fault is shown on Jennings (1975) fault map of Cal. This map was used by Nakata et al (1982) as a reference to their Quaternary fault map of the Basin & Range Province. However, the State Line fault doesnt appear on Nakata et al (1982).

John Nakata checked his files and found that the State Line fault was omitted from the first virsion of his map. The reviewers (Bruce Schell - Fugro and Charles Jennings-CDMG), reviewed that part of the map didnt make any comments about it being omitted.

John Nakata doesnt think there was a reason for omitting the State line fault. He thinks it was a blunder on their part and that, because the fault was shown as a Quaternary fault on Jennings (1975), it should have been shown on his map also.

Santi, P.M., 1988, The kinematics of debris flow transport down a canyon: unpublished M.S. thesis, Texas A&M University, 85 p.

RECORD OF TELEPHONE CONVERSATION

DATE 24 AUG 88 JOB NO. 14641-004-01
RECORDED BY: KEATON OWNER/CLIENT: KERN RIVER
TALKED WITH: JOHN NAKATA OF USGS Menlo Park
NATURE OF CALL: INCOMING ☐ OUTGOING ☒ 415-329-4962
ROUTE TO: INFORMATION ACTION

MAIN SUBJECT OF CALL: STATE LINE FAULT

ITEMS DISCUSSED:

The State Line fault is shown on Jennings (1975) fault map of Ca. This map was used by Nakata et al (1982) as a reference to their Quaternary fault map of the Basin & Range Province. However, the State Line fault doesn't appear on Nakata et al (1982).

John Nakata checked his files and found that the State Line fault was omitted from the first version of his map, The reviewers (Bruce Schell - Fugro and Charles Jennings - CDMG), reviewed that part of the map didn't make any comments about it being omitted.

John Nakata doesn't think there was a reason for omitting the State Line fault. He thinks it was a blunder on their part and that, because the fault was shown as a Quaternary fault on Jennings (1975), it should have been shown on his map also.

EARTHSTORE
A DIVISION OF DAMES & MOORE

STATE OF UTAH
NATURAL RESOURCES
Utah Geological & Mineral Survey

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Genevieve Atwood, State Geologist

606 Black Hawk Way · Salt Lake City, UT 84108-1280 · 801-581-6831

August 22, 1988

Mr. Jeffrey R. Keaton
Dames & Moore
250 E. Broadway, Suite 200
Salt Lake City, Ut 84111-2480

Dear Mr. Keaton:

This letter is written following our discussions regarding Quaternary faults in Utah. As we mentioned, the Utah Geological and Mineral Survey (UGMS) is currently updating the Quaternary fault map of the state which was compiled originally by Larry Anderson and Darryl Miller and published in 1979 by Fugro, Inc. In this effort we are examining all geologic mapping in the state, including the references cited by Anderson and Miller. Our updated compilation should be available for distribution sometime in 1989.

We understand that your current interest in the distribution of Quaternary faults is in the area of Utah where the proposed Kern River and WyCal pipeline alignments are being considered, specifically between the southwest corner of Wyoming and the Wasatch Front. Prior to our discussions, we had not noticed that some of the fault traces in this area shown on the Geologic Map of Utah, compiled by Lehi Hintze and published by the UGMS in 1980, extend into deposits mapped as Quaternary. The principal reason that we had not noticed these faults on the Geologic Map of Utah is that we view this map as too generalized to be used as a source of basic information for compiling a Quaternary fault map.

It must be understood that some Quaternary faults are known to exist in Utah in the general area east of the Wasatch Front. The best reference regarding Quaternary faults in the area of your interest is Seismotectonic Report 88-5 by the U.S. Bureau of Reclamation (Sullivan and others, 1988, Central Utah regional seismotectonic study for USBR dams in the Wasatch Mountains). This report, along with our review of other geologic mapping in the area, indicates that a number of faults shown on the Geologic Map of Utah (Hintze, 1980) as solid lines in deposits of Quaternary age are not Quaternary faults. At this time we suspect that they are cartographic errors, but Dr. Hintze should be consulted for more specific information. Dr. Hintze is currently mapping in southern Utah for UGMS and is likely to be difficult to reach for the remainder of the field season.

We hope that this letter provides useful information. If you would like to discuss this issue further, please contact us.

Sincerely,

Suzanne Hecker

Suzanne Hecker, Geologist

Genevieve Atwood

Genevieve Atwood, Director

GA/SH/sw

APPENDIX J

AFFIDAVITS OF PREPARERS

AFFIDAVIT

State of Utah)
)
County of Salt Lake)

I, Robert L. Sluder, hereby state that my professional qualifications are set forth in Exhibit KR-24, pages 1-2 in Docket Nos. CP85-437, et al., that the comments identified below of Kern River Gas Transmission Company on the Draft WyCal Supplement were prepared by me or under my supervision and direction and are true and correct to the best of my knowledge, information and belief:

Volume VI Comments

4.3.1.2, pp. 14-16
4.3.1.4, pp. 16-19
4.3.1.13, pp. 20-25
4.3.1.84, p. 26
4.4, pp. 27-29
Appendix E
Appendix F

Volume III Comments

1.5.4.1, pp. 43-50

Robert L. Sluder

Subscribed and sworn to before me, a Notary Public in and for the State of Utah this 8th day of September, 1988.

Notary Public

AFFIDAVIT

State of Utah)
)
County of Salt Lake)

I, Harold G. Gillit, hereby state that my professional qualifications are set forth in Exhibit KR-4, pages 1-3 in Docket Nos. CP85-437, et al., that the comments identified below of Kern River Gas Transmission Company on the Draft WyCal Supplement were prepared by me or under my supervision and direction and are true and correct to the best of my knowledge, information and belief:

Volume VI Comments

1.0, p. 5
1.6, p. 6
3.2.1.8.1, pp. 8-9

Volume III Comments

1.4.1, p. 30
1.4.2, p. 31
1.4.3, p. 33
1.4.8.2.2, p. 33
1.6, pp. 52-56
3.0, p. 57
Appendix G

Harold G. Gillit

Subscribed and sworn to before me, a Notary Public in and for the State of Utah this 8th day of September, 1988.

Notary Public

KR-96

AFFIDAVIT

State of Utah)
)
County of Salt Lake)

I, Lonnie F. Newton, hereby state that my professional qualifications are attached hereto, that the comments identified below of Kern River Gas Transmission Company on the Draft WyCal Supplement were prepared by me or under my supervision and direction and are true and correct to the best of my knowledge, information and belief:

Volume III Comments

1.5.4.1, pp. 37-43
Appendix H

Lonnie F. Newton

Subscribed and sworn to before me, a Notary Public in and for the State of Utah this 8th day of September, 1988.

Notary Public

AFFIDAVIT

State of Utah)
)
County of Salt Lake)

I, Kris R. Hohenshelt, hereby state that my professional qualifications are set forth in Exhibit KR-15, pages 1-2 in Docket Nos. CP85-437, et al., that the comments identified below of Kern River Gas Transmission Company on the Draft WyCal Supplement were prepared by me or under my supervision and direction and are true and correct to the best of my knowledge, information and belief:

Volume VI Comments

S.4, p. 4
1.3.5, p. 5
Table 1.2-3, p. 6
3.1.2, p. 8
Table 3.2-3, p. 8
3.2.1.12.3, p. 10
3.2.2, p. 10
4.3.1.4, pp. 16-19
Table 4.3-3, p. 25
Table 4.7-1, p. 29
Appendix B
Table S-1, pp. 3-4

Volume III Comments

Table 1.5-1, pp. 33-35
1.5.2.2.1, 1.5.2.[3].1, pp. 35-36
1.5.3, p. 36

Kris R. Hohenshelt

Subscribed and sworn to before me, a Notary Public in and for the State of Utah this 8th day of September, 1988.

Notary Public

Promoted to Vice President and Construction Manager in 1976 and made responsible for estimating, bidding and construction of projects on a worldwide basis. Involved in very large pipeline projects in Saudi Arabia (approximately 500 miles of 48-inch pipeline), Algeria (approximately 450 miles of 42-inch pipeline), Peru (approximately 300 miles of 30-inch pipeline), and Ecuador as well as continuing construction projects in Nigeria and Brazil. The company was sold in 1980.

In 1980 and 1981, I was employed as a consultant and expert witness on the arbitration case of Parsons-Gilbane/ U.S. Government vs. Banister Pipeline Company.

In 1981, I was employed by Northwest Alaskan Pipeline Company as Area Construction Manager and was involved in the supervision of cost estimates, pipeline design and field programs.

In 1982, as the Northwest Alaskan project was phased down, I was transferred to Northwest Pipeline Corporation as Manager of Pipeline Engineering. In 1985, as Manager of Major Projects, I was directly involved in the preparation of the Kern River cost estimates. I was later assigned full-time on the project as Manager of Design and still hold that position.

Educational Background

I received a Bachelor of Science degree in geological engineering from Louisiana Polytechnic Institute in Ruston, Louisiana in 1959.

Professional Background

From 1959 to 1964, I was employed by Texas Gas Transmission Corporation as Project Engineer on various pipeline and compressor station construction projects. Responsibilities were to assist with design, coordinate and supervise construction and make final completion reports.

From 1964 to 1968, I was employed by Sugar Bowl Gas Corporation as Operations Manager and responsible for all phases of design, construction and operations of the gas distribution company in Louisiana. In 1968 and 1969, I was employed by Gulf Interstate Engineering Company as Project Engineer and later promoted to Project Manager with responsibility for the design and construction of an anhydrous ammonia pipeline system approximately 1,100 miles long.

From 1969 to 1980, I was employed by Houston Contracting Company as Project Manager responsible for estimating, bidding and supervising construction of various size pipeline projects in the southern United States and the Gulf of Mexico. Promoted to Resident Manager in Nigeria for approximately four years where I was totally responsible for the Company's operations in West Africa which involved estimating, bidding and constructing large pipeline projects on land, in mangrove swamps and off-shore.

KR-98

AFFIDAVIT

State of Utah)
)
County of Salt Lake)

I, Jeffrey R. Keaton, hereby state that my professional qualifications are attached hereto, that the comments identified below of Kern River Gas Transmission Company on the Draft WyCal Supplement were prepared by me or under my supervision and direction and are true and correct to the best of my knowledge, information and belief:

Volume VI Comments

3.2.2.2, pp. 11-12
4.3.1.13, pp. 20-25
4.4, pp. 27-29
Appendix C
Appendix D
Appendix I

Volume III Comments

1.5.4.1, pp. 43-50

Jeffrey R. Keaton
Jeffrey R. Keaton

Subscribed and sworn to before me, a Notary Public in and for the State of Utah this 5th day of September, 1988.

Notary Public

Curriculum Vitae

JEFFREY R. KEATON

Fields of Specialty	Engineering geology, natural hazards assessments, slope stability evaluations, geoseismic and fault evaluations, Quaternary geology and geomorphology.
Consulting Experience with Dames & Moore/ EarthStore	Since 1971, principal investigator, project manager or project geologist on numerous projects in Alaska, Arizona, California, Colorado, Idaho, Michigan, Montana, Nevada, New Mexico, South Carolina, Utah, Virginia, Wyoming and in Iran. Duties involved conducting and supervising regional and detailed mapping of bedrock and surficial geology, aerial photograph interpretation, logging of surface and subsurface exposures and samples, analysis of laboratory test data and report preparation. Many projects involved engineering geologic evaluations of the stability of surficial and bedrock geologic materials under both static and earthquake loading. Assessment of landslides and formulation of corrective measures. Design of cut slopes and recommendations of design parameters for many projects. Participation in preliminary design of water retention dams in southwest New Mexico and north-central Utah. Many other projects involved geoseismic evaluations of fault zones such as the San Andreas, San Jacinto, Elsinore, Manix, Whittier, Newport-Inglewood, Santa Ynez and San Fernando in California; the Stafford in Virginia; the Wasatch, East Cache, Dayton and West Valley in Utah; and unnamed faults in Utah, Colorado, Montana, Nevada, New Mexico and Iran. Deterministic development of design earthquake parameters, design fault offset parameters, and calculation of spectral bounds for design design response spectra for specific site conditions. A number of projects involved evaluation of natural hazards, specifically ground failure associated with landslides and earthquake-induced permanent ground deformation (faulting and liquefaction). Development of probabilistic estimates of risk.
Registrations	Registered geologist and certified engineering geologist (1976) and registered civil engineer (1979), State of California (all by written examination). Certified Professional Geologist (AIPG) (1983). Registered civil engineer, State of Utah (1985, by reciprocity).
Academic Training	B.S. Geological Engineering (Engineering Geology Option), University of Arizona, 1971 (with distinction). M.S. Engineering (Geotechnical Engineering), University of California, Los Angeles, 1972. Ph.D. Geology, Texas A&M University, 1988 (pending completion and defense of dissertation).

Research

- Principal Investigator. Assessing debris flow hazards on alluvial fans in Davis County, Utah. Sponsored by U.S. Geological Survey Landslide Hazards Reduction Program through Utah Geological and Mineral Survey. 1987.
- Principal Investigator. Seismic slope stability evaluation of the urban corridor of Davis and Salt Lake Counties, Utah. Sponsored by U.S. Geological Survey Earthquake Hazards Reduction Program. 1984-1986.
- Co-Principal Investigator. Landslide hazards in Davis County, Utah. Sponsored by U.S. Geological Survey Landslide Hazards Reduction Program through Utah Geological and Mineral Survey. 1985-1986.
- Co-Principal Investigator. Initiation of landslides due to snowmelt in mountainous terrain, North-Central Utah. Sponsored by National Science Foundation. 1984-1985.
- Co-Principal Investigator. Disaster reconnaissance of Utah debris flows, flooding and landslides, Spring 1983. Sponsored by National Academy of Sciences. 1983.

Teaching Experience

- University of Utah, Department of Geography, Adjunct Associate Professor, Geography 333 - Urban Physical Geography, academic year 1984-1985 and 1985-1986, and Geography 530 - Applied Geomorphology, academic years 1984-1985, 1985-1986, 1987-1988. Geography 320 - Principles of Geomorphology, scheduled academic year 1988-1989.

  Applied Geomorphology - University of Utah: 1984-86, 1987.

  Urban Physical Geography - University of Utah: 1984-86.

  Urban Geology - Texas A&M University: 1986-87.

- Texas A&M University, Department of Geology, Instructor, Geology 321 - Urban Geology, Fall and Spring Semesters, academic year 1986-1987.

Professional Affiliations

- American Society of Civil Engineers, member of Engineering Geology Committee.
- American Institute of Professional Geologists, Certified Professional Geologist.
- Association of Engineering Geologists, charter member and first Chairman of Utah Section (1980), Chairman of Engineering Geology Standards Committee (1981-present), Chairman of Mapping Symbols Subcommittee (1981-1985).
- Earthquake Engineering Research Institute.
- Geological Society of America (Fellow), Engineering Geology Division and Quaternary Geology and Geomorphology Division. Member, Engineering Geology Division Management Board (1984-1986), Secretary/Treasurer, Engineering Geology Division (1987-1988).
- International Association of Engineering Geology.
- Transportation Research Board, member of Committee on Engineering Geology (A2L05), member of Committee on Exploration and Classification of Earth Materials (A2L01), (1981-1986).

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the restricted service list compiled by the Presiding Administrative Law Judge in this proceeding.

Dated at Washington, D.C., this 9th day of September, 1988.

/s/ Michael J. Thompson

Michael J. Thompson

WRIGHT & TALISMAN, P.C.
1050 17th Street, N.W., Suite 600
Washington, D.C. 20036
(202) 331-1194

Of Counsel for

Kern River Gas Transmission Company

1012-001.57-

Wyoming-California Pipeline Co. Comments

[Wyoming-California Pipeline Company]

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Mojave Pipeline Company	Docket Nos. CP85-437-000 and CP85-437-003
Kern River Gas Transmission Company	Docket Nos. CP85-552-000 and CP85-552-002
Northwest Pipeline Corporation	Docket Nos. CP85-625-000 and CP85-625-001
El Paso Natural Gas Company	Docket Nos. CP86-197-000 CP86-197-002 CP86-197-001 and CP86-197-003
Transwestern Pipeline Company	Docket Nos. CP86-212-000 and CP86-212-001 (Phase II-A)
Wyoming-California Pipeline Company	Docket Nos. CP87-479-001 and CP87-480-000

COMMENTS OF WYOMING-CALIFORNIA PIPELINE COMPANY ON THE DRAFT SUPPLEMENT TO THE MOJAVE - KERN RIVER - EL DORADO FINAL ENVIRONMENTAL IMPACT REPORT/STATEMENT

September 12, 1988

WY-2

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Mojave Pipeline Company	Docket Nos. CP85-437-000 and CP85-437-003
Kern River Gas Transmission Company	Docket Nos. CP85-552-000 and CP85-552-002
Northwest Pipeline Corporation	Docket Nos. CP85-625-000 and CP85-625-001
El Paso Natural Gas Company	Docket Nos. CP86-197-000 CP86-197-002 CP86-197-001 and CP86-197-003
Transwestern Pipeline Company	Docket Nos. CP86-212-000 and CP86-212-001 (Phase II-A)
Wyoming-California Pipeline Company	Docket Nos. CP87-479-001 and CP87-480-000

COMMENTS OF WYOMING-CALIFORNIA PIPELINE COMPANY ON THE DRAFT SUPPLEMENT TO THE MOJAVE - KERN RIVER - EL DORADO FINAL ENVIRONMENTAL IMPACT REPORT/STATEMENT

Wyoming-California Pipeline Company ("WyCal") hereby submits its comments on the Draft Supplement to the Mojave - Kern River - El Dorado Final Environmental Impact Report/Statement ("Draft Suppl."), issued jointly by the Staffs of the Federal Energy Regulatory Commission ("Commission") and the California State Lands Commission ("CSLC") on July 25, 1988.[1] The Draft Suppl. addresses those areas of the WyCal project which were not previously covered in the Final Environmental Impact Statement

---

[1] References to "Staff" throughout these Comments are to both the Commission Staff and the CSLC Staff, unless otherwise noted.

("FEIS") which was made available in December, 1987. While concurring with the overall conclusion that WyCal's proposal is "environmentally acceptable", WyCal respectfully submits that the Draft Suppl. requires revision in certain respects. With these suggested revisions, WyCal expects that the Commission Staff and the CLSC will be in a position to complete the final Supplement to the FEIS in accordance with the requirements of the National Environmental Policy Act ("NEPA"), the California Environmental Quality Act, and applicable regulations.

WyCal's comments are submitted in three parts:

Part I consists of a comprehensive review of the Draft Suppl., and incorporates suggested language revisions where appropriate. For ease of reference, the Comments are set forth in the same sequence as the Draft Suppl., with comments on Volume VI, followed by comments on the Volume III Supplement. Some cross-occurence, however, was inevitable. In summary, WyCal proposes the following:

- inclusion of the Stateline South Variation as an alternative route if the North Las Vegas Variation is required by the Commission
- inclusion of the detailed cumulative impacts analysis prepared by WyCal with respect to the construction and/or operation of one, two or three interstate pipelines
- elimination of mitigation measure No. 155 ("sequential construction")
- inclusion of recommendations that the FEIS and the Supplemental FEIS be utilized as records of decision by other Federal agencies
- elimination of the El Paso base case from the analysis of WyCal's environmental impacts

- certain clarifications and/or modifications as more fully outlined herein

Part II comprises a complete environmental report on the Stateline South Variation, which the Staff chose to eliminate from its analysis. WyCal continues to believe that the Stateline South Variation is both environmentally acceptable and an appropriate alternative for consideration under the applicable NEPA standards. Therefore, for the reasons more fully set forth in Parts I and II, below, WyCal respectfully requests that its environmental report on the Stateline South Variation be incorporated into the Supplemental FEIS; and

Part III consists of a further cumulative impacts analysis associated with the construction of one, two or three pipelines.

PART I

Part I

VOLUME VI WYCAL SUPPLEMENT

WY-1

- Table S-1 Interstate Systems Comparisons

The 127 acres of affected Yuma Clapper Rail habitat at Draft Suppl., Vol. VI, p. S-8 is believed by WyCal to be incorrect. Based upon WyCal's environmental studies, WyCal submits that no Yuma Clapper Rail habitat will be affected. California Condor habitat loss should also be eliminated from the table, since this species no longer exists in the wild.

Recommended Changes:

(a) At p. S-8, delete the references to the 127 acres of affected habitat for the Yuma Clapper Fail and the 1355 acres of affected habitat for the California Condor.

(b) At Draft Suppl., Vol. III Supplement, Table 1.5-1, delete the same references.

WY-2

- Section 1.0 Scope of the WyCal Supplement

At Draft Suppl., Vol. VI, page 1-8, the Staff describes various land use and right of way ("ROW") conflicts that have been identified by various landowners in the vicinity of the Salt Lake City area of the Wasatch Variation, and concludes:

> Such ROW conflicts are the subject matter of negotiations between the successful certificated applicant and the specific landowner at the time preceding construction... The staff believes that face-to-face negotiation and good faith consultation between landowner and project sponsor is the proper forum to resolve any such conflicts and not the FEIR/s process.

WY-1 The 127 acres are associated with the Mojave Transfer Line (i.e., WyCal's Transwestern Supply Lateral). Comments on this portion of the route are outside the scope of the issues associated with the WyCal Supplement.

Since reintroduction of captured condors back to the wild can be made as soon as success of the captive breeding program is realized, the California condor habitat loss figure should remain.

WY-2 Thank you for your comment.

WY-2 (cont.) This conclusion is eminently correct. At the public meeting conducted in Salt Lake City on August 23, 1988, various municipalities expressed concern regarding possible conflicts with roadways and municipal utility facilities. In addition, Salt Lake City presented extensive evidence during the Mojave Phase II proceedings regarding certain perceived conflicts with city utilities and proposed expansions of Salt Lake City's international airport. WyCal has consistently expressed, both in private meetings and in public testimony, its willingness to cooperate with affected landowners in good faith negotiations. In this manner, the concerns that have been raised -- as the Staff suggests -- can be fully addressed at the appropriate time.

WY-3 - Section 1.2 Scope of the WyCal Supplement:

Staff notes that it is too early to comment on gathering and redelivery systems because "[u]ntil the extent, nature and location of any new facilities is known, which is not expected to occur until after a FERC certificate is issued, their precise impacts cannot be analyzed". Draft Suppl., Vol. VI, p. 1-9.

WyCal agrees with the Commission Staff that it is premature to discuss either the gathering or the redelivery facilities that may be associated with the supply or delivery of gas to EOR or other customers until their exact extent, nature and location is known. As shown in WyCal's August 22, 1988 Initial Brief on Environmental Issues in the Mojave Phase II proceedings, NEPA does not require the impossible, and thus Staff's position is fully supported by the Courts. In any event, the impacts of such

WY-3 Thank you for your comment.

WY-3 (cont.) activities will be short-term, local and minor in the context of today's oil and gas development systems, particularly in Kern County, California, and in the gas producing regions in which WyCal originates. In that regard, while Staff does not seek to "resurrect old issues', Draft Suppl., Vol. VI, p. 1-9, WyCal would point out that WyCal's proposed route has been specifically designed so that it will be located close to supply sources. See discussion of Section 4.2.9.1, infra.

WY-4
- Section 1.3.2 The Optional Certificate Process

At Draft Suppl., Vol. VI, p. 1-11, the Staff explains the Commission's Optional Certificate ("OC") procedures set forth at Part 157.100 of the Commission's Regulations. It is noted that a project "can be presumed to be in the public convenience and necessity if the applicant has assumed the full risk of the project". Id. The Commission has most recently summarized its OC procedures in its July 1, 1988 Order, Wyoming-California Pipeline Company, 44 FERC (CCH) ¶61,001 (1988), and it will be useful if readers of the Supplemental FEIS are referred to such updated discussion. In particular, the Commission has clarified its policy regarding assumption of risk by an OC applicant.

Recommended Change:

At Draft Suppl., Vol. VI, p. 1-11, substitute the last two paragraphs of Section 1.3.2 as follows:

> As the Commission stated in Wyoming-California Pipeline Company, 44 FERC (CCH) ¶61,000 at pp. 61,006-7 (1988):
>
> > Therefore, it is clear that an applicant for an optional certificate cannot be allowed to shift the risk of the new project to existing pipeline

WY-4 Comment partially accepted, see change in Vol. VI, Section 1.3.2. The issue of reservation fees is beyond the scope of the EIS.

WY-4 (cont.) customers who do not receive the service. However, the pipeline may arrange to allocate the risk to new customers who would utilize the new service.

Order No. 436 provided that the reservation fee must be negotiable between the pipeline or optional certificate applicant and the affected parties. If the reservation fee is clearly negotiable, the pipeline is not guaranteed any revenue until the shipper agrees to pay the reservation charge. Therefore, the pipeline is at risk until a shipper agrees to pay an agreed-upon fee. If the shipper agrees to pay a negotiated reservation charge, the Commission would not normally intercede.

Thus, the basic premise of the OC regulations is that a project can be presumed to be in the public convenience and necessity if the applicant has successfully negotiated the sharing of that risk. It is also important to note that no market or gas supply data are required to be filed by an OC applicant.

WY-5 • Section 1.3.5 Other Permitting Agencies

The potential use of the FEIS as the basis for the BLM's Record of Decision in connection with amendment to the BLM's California Desert Plan is noted by the Staff at Draft Suppl., Vol. VI, p. 1-16. WyCal suggests that the FEIS process should apply to all Federal agency decisions on natural resource planning document amendments. For example, amendment to the Resource Management Plan for the Uintah National Forest would obviate the need to utilize the Wasatch Variation. This amendment could be achieved by the Forest Service utilizing the FEIS and Supplemental FEIS as records of decision for this purpose. This is appropriate because the Forest Service would

WY-5	Staff has already encouraged both agencies to utilize this EIS; however, the ultimate decision is theirs to make. In addition, if Mitigation Measure No. 111 (See FEIR/S, III) is adopted (which both WyCal and Mojave have done), BLM will not have to amend the California Desert Plan.

WY-5 (cont.) have to deal with the same public to which the Staff has already presented the WyCal and Kern River projects. The environmental review process in these proceedings has been explicitly and diligently followed by the Staff for all of the proposed projects. To repeat that process would simply be to duplicate work that has already been accomplished, and would be wasteful of agency resources. Moreover, inter-agency adoption of environmental impact statements is specifically encouraged by the CEQ's regulations. See 40 C.F.R. §1506.3. WyCal therefore requests that the Draft Suppl. include a recommendation that other federal agencies be invited and encouraged to utilize the FEIS and Supplemental FEIS developed in these proceedings as a record of decision for any changes in applicable resource management plans.

Recommended Changes:

(a) At Draft Suppl., Vol. VI, page 1-16, add the following sentence to the first full paragraph:

> The Staff requests and encourages the BLM to utilize the FEIS and Supplemental FEIS prepared in these proceedings as records of decision for the purpose of making any such changes to the California Desert Plan.

(b) At Draft Suppl., Vol. VI, page 1-17, add the following sentence after the first line:

> The Staff again encourages the Forest Service to utilize the FEIS and Supplemental FEIS as records of decision, as discussed above.

WY-6

- Table 1.2-1, Key Federal Authorizing Actions, WyCal Pipeline Proposal

WyCal suggests a number of clarifications at Draft Suppl., Vol. VI, pp. 1-18 - 1-19.

Recommended Changes:

(a) The Fish and Wildlife Service would also have to concur with the BLM pipeline ROW and notices to proceed, prior to their issuance, for any crossing of the Havasu National Wildlife Refuge.

(b) The WyCal pipeline and access roads will not cross the Laguna and Navajo Indian lands as noted under the Bureau of Indian Affairs section.

(c) The Bureau of Reclamation would also have to concur with the BLM's ROW and notice to proceed, prior to issuance, for crossing federal lands in the Las Vegas Wash.

(d) The Department of Defense, Corps of Engineers, would have to concur with BLM's ROW grant and notice to proceed, prior to issuance, for any crossing of Camp Williams.

(e) The WyCal ROW does not cross Nellis AFB or the Elk Hills National Petroleum Reserve. In addition, with the recommended use of Mojave Alternative B, which WyCal has adopted, the ROW does not cross Edwards AFB or Fort Irwin.

- Table 1.2-2 Key State Authorizing Actions, WyCal Pipeline Proposal

WyCal also suggests two clarifications to this Table at Draft Suppl., Vol. VI, pp. 1-20 - 1-21.

WY-6 Comment accepted, see revision in Vol. VI, Table 1.2-1. This would equally apply to Mojave.

Comment accepted. Also see FEIR/S, I/Table 1.2-1 which identifies that El Paso will cross Indian lands.

Thank you for your comment.

Thank you for your comment.

Portions of the proposed WyCal ROW or variations studied in the Supplement cross Nellis AFB and Edwards AFB. Reference to the Elk Hills National Petroleum Reserve and Fort Irwin have been deleted. See Vol. VI, Table 1.2-1.

WY-7 Recommended Changes:

(a) The Kern County Air Pollution Control Board does not issue permits for pipeline construction, although the Planning Commission may require the analysis of air quality impacts prior to construction (see, eg, FEIS, Vol. I at p. 4-2).

WY-8 (b) The Clark County Board of Health, Air Pollution Control Division, issues air pollution control permits for compressor station and construction activities in Clark County, Nevada (see, eg, Draft Suppl., Vol. VI at p. 4-6).

WY-9
- Section 2.2.1 Facilities:

WyCal's proposed Hams Fork Meter Station (see, Draft Suppl., Vol. VI, p. 2-7) will be located in Sections 21 and Section 22, Township 21 North, Range 114 West, as the proposed facilities are located on a section line. The proposed Whitney Canyon Meter Station will be located in Sections 16 and 17 of Township 17 North, Range 119 West, as those proposed facilities are also located on a section line.

Recommended Change:

At Draft Suppl., Vol. II, p. 2-7, correct the legal descriptions as described in the preceding paragraph.

- Section 2.2.1 Facilities

(Construction of New Facilities Upstream of WyCal's Western Leg)

The Draft Suppl. observes that (Vol. VI, p. 2-6):

> The facilities proposed by Transwestern
> to support the Mojave project and studied

WY-7 Thank you for your comment.

WY-8 Comment accepted, see Vol. VI, Table 1.2-3.

WY-9 Comment accepted, see Vol. VI, Section 2.2.1.

in Volume I of the FEIR/S, are not required for the WyCal project. The facilities for El Paso's base case also studied in Volume I of the FEIR/S may or may not be required for the WyCal project but for environmental analysis purposes, El Paso's base case has been assumed to be necessary.

WY-10 Neither the facilities proposed by Transwestern nor the facilities proposed by El Paso will be necessary to effectuate deliveries into WyCal's proposed Western Leg, and WyCal has planned its project on that basis. This is because the Mojave project has been designed to accept deliveries from the mid-continent area totalling from 400 MMcf/d to 600 MMcf/d. WyCal, on the other hand, proposes to accept 250 MMcf/d from the mid-continent area, and believes that such considerably lesser volume can be accommodated utilizing existing pipeline capacity on the facilities of Transwestern and El Paso. It should be noted that Exhibit No. EP-9 in the consolidated Mojave proceedings demonstrates existing spare capacity on El Paso's system alone in excess of 200 MMcf/d.

By including the environmental effects associated with "El Paso's base case route", the Draft Suppl. overstates the environmental consequences of WyCal's proposed action. WyCal therefore requests that the references to the effects associated with El Paso's proposed facilities be eliminated.

Recommended Changes:

(a) Delete the last sentence of the first full paragraph on page 2-6, and reword the penultimate sentence thereof as follows:

WY-10 If the analysis is conservative so be it, but there has been no case presented in this comment that El Paso's Base Case won't be needed.

WY-10 (cont.)

"The facilities proposed by Transwestern and El Paso to support the Mojave project, and studied in Volume I of the FEIR/S, are not required for the WyCal project."

(b) Page 2-6, last partial paragraph, sixth line:

Strike "and El Paso's base case route".

(c) Delete all references to environmental consequences associated with El Paso base case from discussion of Affected Environment in Chapter 3 and of Environmental Consequences in Chapter 4 of Volume VI.

(d) On page S-25, last paragraph, delete second sentence, and change first sentence to read as follows:

> For the WyCal proposal, the Transwestern Expansion and the facilities associated with El Paso are not necessary or proposed.

WY-11

- Section 2.2.2.1 Pipeline Construction Methods

WyCal will, where possible and environmentally appropriate, return hydrostatic test water to its point of origin and will comply with jurisdictional agency requirements in this regard. Draft Suppl., Vol. VI, p. 2-8. These jurisdictional agency requirements, however, vary from state to state.

Recommended Change:

The last sentence of Section 2.2.2.1 should read "WyCal will discharge its hydrostatic test water in accordance with state regulations and applicable requirements of the jurisdictional agency(s)."

WY-11 Comment accepted, see change made in Vol. VI, Section 2.2.2.1.

WY-12 • Section 2.3.1 Wasatch Variation

At Draft Suppl., Vol. VI, p. 2-3, the Staff conclude (in agreement with Kern River) that project cost should be reduced through utilization of the Wasatch variation. WyCal estimates that the Wasatch Variation would increase the project cost by $14.3 million as detailed below.

Project Costs
(see Table A, page 14)

As Filed	Wasatch Variation	Difference
$87,476,000	$101,763,000	$14,287,000

WY-13 • Section 2.3.1.1 Bountiful Boulevard Alternative

The Staff disagrees with WyCal's estimate of the project cost increase that would result from utilization of this route alternative, and seeks "a more thorough cost analysis from both Kern River and WyCal". Draft Suppl., Vol. VI at p. 2-16. WyCal estimates that the Bountiful Boulevard Alternative to the Wasatch Variation would increase the project cost by $0.65 million, as shown below:

Project Costs
(see Table B, page 15)

Bountiful Boulevard Alternative	FEIS Route	Difference
$12,452,000	$11,802,000	$650,000

WY-12 Thank you for your response.

WY-13 Thank you for your response.

WY-16

TABLE A
(1988 dollars)

WYOMING CALIFORNIA PIPELINE COMPANY

Total Mileage -
Diameter -

Description	As-Filed Route Amount	Wasatch Variation Amount	Variance Amount
Material			
Pipe 30 x .364	23,250,000	24,235,000	985,000
Pipe 30 x .429	579,000	2,704,000	2,125,000
Pipe 30 x .514	1,743,000	3,051,000	1,308,000
Freight, Pipe	2,983,000	3,499,000	516,000
Pipe Coating, C & W	1,064,000	1,222,000	158,000
Pipe Coating, Fusion Bond Epoxy	926,000	1,059,000	133,000
Mainline Valve Assembly	104,000	104,000	0
Miscellaneous	1,532,000	1,794,000	262,000
Freight, Other	363,000	418,000	55,000
Tax, Sales	1,627,000	1,904,000	277,000
Total Material	34,171,000	39,990,000	5,819,000
Installation			
Lay, String and Test, Flat	14,967,000	18,173,000	3,206,000
Lay, String and Test, Flat + CC	0	401,000	401,000
Lay, String and Test, Mountains	13,733,000	12,710,000	(1,023,000)
Lay, String and Test, Steep Canyons	0	2,006,000	2,006,000
Lay, String and Test, Roads	0	0	0
Install Valves	18,000	18,000	0
X-Ray	1,447,000	1,663,000	216,000
Hydrostatic Test	1,419,000	1,630,000	211,000
Miscellaneous	1,579,000	1,830,000	251,000
Total Installation	33,163,000	38,431,000	5,268,000
Other Contract Cost			
Survey	274,000	315,000	41,000
Drafting	14,000	16,000	2,000
Total Other Contract Cost	288,000	331,000	43,000
Company Cost	924,000	1,062,000	138,000
Land	4,162,000	4,782,000	620,000
Contingencies	7,271,000	8,460,000	1,189,000
Total Direct Cost	79,979,000	93,056,000	13,077,000
Overheads	400,000	465,000	65,000
Interest	5,948,000	6,921,000	973,000
Line Pack	423,000	487,000	64,000
Environmental	726,000	834,000	108,000
Total Project Cost	87,476,000	101,763,000	14,287,000

TABLE B
(1988 dollars)

WYOMING CALIFORNIA PIPELINE COMPANY

Description	FEIS Holbrook Route Amount	Bountiful Blvd Route Amount	Pages Lane Route Amount	Porter Lane Route Amount	Bountiful Peak Route Amount
Total Mileage -					
Diameter -					
Material					
Pipe 30 x .364	0	365,000	365,000	365,000	0
Pipe 30 x .429	2,060,000	386,000	2,103,000	2,168,000	1,932,000
Pipe 30 x .514	1,077,000	2,538,000	872,000	949,000	2,948,000
Freight, Pipe	366,000	384,000	390,000	406,000	569,000
Pipe Coating, C & W	0	0	0	0	0
Pipe Coating, Fusion Bond Epoxy	372,000	369,000	410,000	426,000	552,000
Mainline Valve Assembly	69,000	69,000	69,000	69,000	104,000
Miscellaneous	197,000	206,000	210,000	219,000	305,000
Freight, Other	64,000	64,000	69,000	71,000	96,000
Tax, Sales	210,000	219,000	224,000	234,000	325,000
Total Material	4,415,000	4,600,000	4,712,000	4,907,000	6,831,000
Installation					
Lay, String and Test, Flat	383,000	610,000	645,000	645,000	1,307,000
Lay, String and Test, Flat + CC	401,000	401,000	803,000	803,000	803,000
Lay, String and Test, Mountains	1,562,000	1,023,000	1,319,000	1,319,000	2,424,000
Lay, String and Test, Steep Canyons	2,006,000	0	0	0	0
Lay, String and Test, Roads	0	2,672,000	1,579,000	1,943,000	0
Install Valves	12,000	12,000	12,000	12,000	18,000
X-Ray	146,000	145,000	161,000	167,000	217,000
Hydrostatic Test	143,000	142,000	158,000	164,000	212,000
Miscellaneous	233,000	250,000	234,000	253,000	249,000
Total Installation	4,886,000	5,255.000	4,911,000	5,306,000	5,230,000
Other Contract Cost					
Survey	28,000	27,000	30,000	32,000	41,000
Drafting	1,000	1,000	2,000	2,000	2,000
Total Other Contract Cost	29,000	28,000	32,000	34,000	43,000
Company Cost	93,000	92,000	103,000	107,000	138,000
Land	420,000	416,000	462,000	480,000	623,000
Contingencies	984,000	1.039,000	1,022,000	1,083,000	1,287,000
Total Direct Cost	10,827,000	11,430,000	11,242,000	11,917,000	14,152,000
Overheads	54,000	57,000	56,000	60,000	71,000
Interest	805,000	850,000	836,000	886,000	1,053,000
Line Pack	43,000	42,000	47,000	49,000	63,000
Environmental	73,000	73,000	81,000	84,000	109,000
Total Project Cost	11,802,000	12,452,000	12,262,000	12,996,000	15,448,000

WY-14

- Section 2.3.1.2 Pages Lane Alternative

As with the Bountiful Boulevard Alternative, Staff seeks "a more thorough cost analysis from both WyCal and Kern River". Draft Suppl., Vol. VI, p. 2-17. WyCal estimates that the Pages Lane Alternative [2] to the Wasatch Variation would increase the project cost by $0.46 million, as shown below:

Project Costs
(see Table B, page 15)

Pages Lane Alternative	FEIS Route	Difference
$12,262,000	$11,802,000	$460,000

WY-14 Ibid.

WY-15

- Section 2.3.1.3 Bountiful Peak Alternative:

WyCal opposes utilization of this alternative, for several reasons. WyCal agrees that this alternative does not resolve problems associated with landslide potential, slope steepness, erosion, or water quality issues; in fact, the route of this alternative would increase the potential for such occurrences due to the added length of 5.8 miles over the portion of the Wasatch Variation, which it would replace. In addition, it should be noted that the Bountiful Peak alternative to the Wasatch Variation would increase the Project Cost by $3.65 million, as shown below:

WY-15 Ibid.

---

[2] The Porter Lane Alternative (which Staff analyzed with the Pages Lane Alternative) would increase the project cost by approximately $1.2 million, as shown on Table B.

Project Costs
(see Table B, p. 15)

Bountiful Peak Alternative	FEIS Route	Difference
$15,448,000	$11,802,000	$3,646,000

WY-16 • Section 2.6 Route Variations and System Alternatives Considered But Eliminated From Detailed Analysis:

At Draft Supp., Vol. VI, page 2-19 - 2-20, the Staff discusses possible alternatives to WyCal's route in Wyoming, and concludes that examining possible route variations in Wyoming is an unnecessary exercise," particularly given that the Kern River route is an acceptable (and perhaps preferable) route." Id., at p. 2-20. WyCal respectfully suggests that the parenthetical remark regarding the preferability of the Kern River system in Wyoming is inaccurate. It is inconsistent with the conclusion later in the paragraph that both routes are acceptable "with the implementation of mitigation measures," which only WyCal has pledged fully to adopt. Furthermore, WyCal requires less facilities in Wyoming than the Kern River proposal in order to connect to gas supplies, as further discussed herein.

Recommended Change:

At Draft Supp., Vol. VI, page 2-20, delete the following language:

" (and perhaps preferable)"

WY-16 Comment accepted. Deletion made.

WY-17

- Section 2.6.2. Stateline South Variation:

The Draft Suppl. eliminates WyCal's Stateline South Variation under what Staff calls its "criterion E-4." (Draft Suppl., Vol. VI at p. 2-21) According to the Staff, "Screen E-4 was used to determine if any [variation] exceeded by 10 percent or more the capital cost of the portion of the proposed route which it avoided. It is felt that for this increase in cost, the alternative must offer clear and significant environmental advantages over the proposed route." FEIS, Vol. II, p. 2-38. The Staff determined that WyCal's Stateline South Variation would cost 30% more than the section it would replace, and thus, applying the rationale underlying its criterion E-4, eliminated the Variation from its "detailed analysis". Draft Suppl., Volume VI, at p. 2-19.

WyCal respectfully submits that detailed analysis of the Stateline South Variation was inappropriately eliminated, for several reasons:

(a) The Staff's rigid application of its "Criterion E-4" is not required by the CEQ's regulations under NEPA. The Regulations require only that the Staff "rigorously explore and objectively evaluate all reasonable alternatives". 40 C.F.R. §1502.14(a) (emphasis added). True, the Staff is entitled to eliminate alternatives, id., but there are no specific limits on the scope of "reasonableness" to be applied by the agency in assessing which alternatives to eliminate. In the case where an alternative is being suggested by the agency itself, over the objection of the sponsor of the proposed action, it is perhaps

WY-17 It is interesting to note that WyCal seeks to retain this alternative arguing that WyCal will assume financial accountability and will be at risk for unnecessary expenditures when, as previous WyCal comments indicate, WyCal intends that project costs be shared. Staff did not eliminate this alternative solely on economic grounds as suggested by this comment. The alternative, while costing more, does not offer any clear and significant environmental advantage over the proposed route. In fact, it offers environmental disadvantages, particularly with respect to endangered species habitat. The fact that the applicant itself is sponsoring the alternative does not give an applicant any rights as to what should or shouldn't be in an agency's EIS. The document is an independent assessment, not a tool for an applicant's desires. An applicant also has a responsibility to pursue routes (proposed or alternatives) that keep costs down, both economically and environmentally. The Stateline South Variation does neither. Comment not accepted - no change to the document is warranted.

WY-17 (cont.)

appropriate for the agency to impose some benchmark economic constraints more rigidly in determining the scope of alternatives to be required for NEPA compliance. Conversely, WyCal suggests that, where the applicant itself is sponsoring the alternative - and is willing to accept the economic consequences of the alternative - it is appropriate for the agency to relax this particular standard of review. As the CEQ's regulations point out, "the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." 40 C.F.R. §1502.23.

(b) Denial of "detailed analysis" on economic grounds, over the insistence of the applicant itself, is inconsistent with the philosophy of the Commission's OC regulations. As the Staff notes, the cornerstone of the Commission's OC procedures rests upon two important premises, both of which have been met by WyCal (Draft Suppl., Vol. VI, at p. 1-11):

> A pipeline is eligible for an OC if it agrees to provide nondiscriminatory, open access transportation pursuant to an Order No. 436 blanket certificate and if the proposed rates for the service are designed so that no inappropriate costs are borne by the pipeline's customers.

Since WyCal will assume financial accountability for its project and will be at risk for unnecessary expenditures for

WY-17 (cont.) pipeline facilities [3], it is inconsistent for the Staff to decline to review, for reasons of cost, such reasonable alternatives as the Stateline South Variation. WyCal acknowledges that this project alternative may be slightly more expensive than the section of the route that it would replace, but nevertheless supports this route as a legitimate potential realignment should the needs of the market ultimately dictate this route configuration.

(c) As more fully shown in the Stateline South Variation environmental analysis under Part II of these Comments, the Staff's preliminarily identified environmental concerns can be successfully addressed. The analysis shows that the crossing of the Colorado River can be achieved within acceptable environmental limits; that impacts to desert tortoises can be minimized; that state and federal biologists have not found occurrences of the bald eagle and the peregrine falcon in the vicinity of the proposed pipeline route; and that the nearest Yuma clapper rail habitat is located several miles south of WyCal's proposed route. These favorable environmental conclusions further support inclusion of the Stateline South Variation as a reasonable alternative.

---

[3] WyCal will seek to negotiate a sharing of the financial risk of its project. See, Wyoming-California Pipeline Company, 44 FERC (CCH) at p. 61,006-7. Those shippers with whom WyCal successfully negotiates risk sharing will likewise seek to prevent wasteful expenditures.

WY-17 (cont.)

Recommended Changes

(a) Elimination of Vol. VI, Section 2.6.2, in its entirety.

(b) Addition of the following new section in Vol. VI:

"2.3.3 Stateline South Variation

This variation was developed by WyCal to reduce pipeline mileage on its proposed system south of the Nevada/California border. The variation would begin near NL 568 where WyCal's proposed Northern Leg and the North Las Vegas Variation intersect on the Nevada/California border, and proceed to the southeast along a heading which more or less parallels the state line on the Nevada side. In Section 32, T32S, R65E, the variation would bend to the east-southeast, proceeding to a crossing of the Colorado River north of the Fort Mojave Indian Reservation and south of Riviera, Arizona. The variation would then turn south, following adjacent to an existing 16-inch O.D. Southwest Gas Corporation (Southwest Gas) ROW to an intersection with the existing Transwestern facilities in Section 17, T18N, R21W, where WyCal proposes to locate its Transwestern Meter Station and begin its Transwestern Supply Lateral. (See Figure 2.2-1.)

Adoption of the Stateline South Variation would eliminate that portion of WyCal's proposed mainline between the Nevada/California border and Piute Junction. It would also require WyCal's proposed Transwestern and Topock Supply Laterals to be increased to 36-inch O.D. pipelines (rather than 16- and 24-inch O.D. pipelines as currently proposed). The variation itself would be 31 miles long, compared to 39 miles along the portion of WyCal's mainline route which this variation would replace. Staff has estimated that use of this variation would increase estimated project cost by approximately $12.6 million in 1987 dollars, WY-17 (cont.) primarily because of the increased diameters for the two laterals.[4]

(c) Addition of new Sections 3.2.3 and 4.3.3 to Vol. VI, as set forth in Part II of these Comments, incorporating text, tables, figures, references and an appendix.

(d) Addition of the depiction of the Stateline South Variation on Figure 2.2-1, Draft Suppl., Vol. VI, at p. 2-2.

WY-18

- Table 3.1-1 Geological and Physiographic Conditions, WyCal Pipeline Proposal

In this table, Staff asserts that faults exist in the Middle Rocky Mountain section. In the last paragraph on the previous page, however, (Draft Suppl., Vol. VI, p. 3-1), it is stated that there are "no active or potentially active faults along this segment of the route".

Recommended Change:

Delete the reference in this Table to "faults" under the heading "Middle Rocky Mtns."

WY-18 Comment partially accepted, see Vol. VI, Section 3.1.2.

WY-19

- Section 3.1.7.1 Vegetation

Based upon its own environmental analysis, WyCal does not believe that a milk vetch is expected to occur along the Wyoming segment of its proposed route. Draft Suppl., Vol. VI, p. 3-6. The BLM has no record of any candidate plant species occurring on that portion of the route.

WY-19 Comment partially accepted, see Vol. VI, Section 3.1.7.1.

---

[4] Note: These two new paragraphs are reproductions of the first two paragraphs of Section 2.6.2 which WyCal seeks to eliminate.

WY-19 (cont.)

Recommended Change:

At Draft Suppl., Vol. VI, p. 3-6, revise the paragraph entitled "Plant Species of Special Concern" to state that "No species of special concern is expected to occur along the new (MPO - 54.4) route in these regions."

WY-20

- Table 3.1-5 Important Wildlife Habitat Features in Wyoming, WyCal Pipeline Proposal

WyCal respectfully disagrees with the description of pronghorn, sandhill crane, and raptor distribution along the Wyoming segment in this captioned table at Draft Suppl., Vol. VI, p. 3-7. These data do not match that provided to WyCal by the BLM. These differences may have significant impacts to construction scheduling and mitigation planning.

Recommended Change:

On Table 3.1-5, change the milepost numbers to correspond with the milepost identifications set forth in WyCal's Exhibit No. WC-3B, Schedule 1, Table 2.

WY-21

- Section 3.1.8.1.3 Nevada:

The Staff asserts that "one area of Clark County that may be affected is the Laughlin area". Draft Suppl. Vol. VI, at p. 3-9. WyCal contends that the Laughlin area is unlikely to be affected by the Nevada portion of its pipeline unless the State Line South variation is built. This section of the Draft Suppl. should so note.

WY-20 The information in Table 3.1-5 comes from direct review of BLM, Kemmerer Resource Area wildlife overlay maps, Wyoming Game and Fish wildlife maps, and interviews with BLM and WG&F area wildlife biologists that have direct first-hand knowledge of the potentially affected area. We believe that the information presented in this table is correct, and though it differs from information presented by WyCal in Exhibit No. WC-3B, it should not be changed.

WY-21 Comment accepted, corrections made in Vol. VI, Sections 3.1.8.1.3 and 4.2.8.1 and Table 4.2-13.

WY-21 (cont.)

Recommended Change:

Change the first sentence of the second paragraph of Section 3.1.8.1.3 to read as follows:

> "If WyCal's proposed Stateline South Variation is utilized, one area of Clark County that may be affected is the Laughlin area."

WY-22

- Section 3.1.9 Land Ownership/Use:

Recommended Change:

There is a typographical error at Draft Suppl., Vol. VI, p. 3-13, line 8 (in the quotation from the BLM Resource Management Plan). Change "reserve" to "preserve".

WY-23

- Section 3.2.1.2.1 Bountiful Boulevard Alternative:

Recommended Change:

"Warms" Springs should be "Warm" Springs. Draft Suppl., Vol. VI, at p. 3-19.

WY-24

- Section 3.2.2.6 Freshwater Biology

WyCal's environmental review determined that no aquatic resources exist in WyCal's Nevada segment of the North Las Vegas Variation. Draft Suppl., Vol. VI, p. 3-43. See, the discussion regarding Section 4.3.2.4, *infra*. This section should so state.

Recommended Change:

Delete the current discussion under Section 3.2.2.6, and replace as follows:

> Since the drainages crossed by WyCal's Nevada segment of the North Las Vegas Variation are either intermittent or dry streams, no fishery resources or aquatic species of

WY-22 Comment accepted. Typographic error corrected.

WY-23 Ibid.

WY-24 FEIR/S, II/Section 3.3.4.6 concerning the North Las Vegas Variation indicates that the Muddy River would be traversed. This river supports a Class B fishery. Also see changes to Vol. VI, Section 4.3.2.

WY-24 (cont.) special concern occur along this portion of the Variation.

WY-25 • Section 3.2.2.7.1 Vegetation

WyCal believes that no riparian habitat exists along the intermittent washes in this segment of the route. Draft Suppl., Vol. VI, p. 3-43. In addition, WyCal respectfully questions the potential occurence of five plant species of special concern. Id. This potential occurence was not confirmed by the BLM or the U.S. Fish and Wildlife Service in contacts made by WyCal's environmental representatives.

Recommended Changes:

(a) At Draft Suppl., Vol. VI, p. 3-43, under the discussion "General Vegetation" delete the following words:

> "although the route would cross several intermittent washes which support riparian vegetation."

(b) At the same reference, delete the paragraph commencing with the heading "Plant Species of Special Concern".

WY-26 • Section 3.2.2.7.2 Wildlife

The pipeline would not traverse 1.5 miles of desert bighorn crucial summer habitat in the Castle Mountains, since WyCal's route does not cross this range. Draft Suppl., Vol. VI, p. 3-44.

Recommended Change:

At Draft Suppl., Vol. VI, p. 3-44, change the last sentence of Section 3.2.2.7.2 to read as follows:

WY-25 Comment partially accepted. The text in Section 3.2.2.7.1. now reads "which supports limited riparian vegetation." The limited degree of resolution associated with such a large project does not allow specific assessment for riparian vegetation at each intermittent stream channel crossing. To err on the conservative side as well as for consistency purposes with the other volumes of the Mojave/Kern River/El Dorado FEIR/S, a small amount of riparian vegetation was assumed to occur at each crossing.

The U.S. Fish and Wildlife Service [Cowardin et al., 1979] interprets intermittent washes as wetland habitat (Rivering Intermittent Unconsolidated Streambed). Although these washes may not contain observable riparian vegetation, there may be subtle changes in the vertical and horizontal structure of the vegetation and species composition within the washes such that they make the area important to wildlife.

Cowardin, L., V. Carter, F. Golet, and E. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service, FWS/OBS-79/31.

Our records indicate that suitable habitat for five species of special concern occurs in this area, and although there are no records of individuals of any of these species, the potential for their occurrence exists because their habitat exists.

WY-26 WyCal's proposed route crosses the northeastern portion of the desert bighorn crucial summer range that includes portions of the New York, Piute, and Castle Ranges. The habitat delineation comes from the Clark County Grazing DEIS of 1982. The proposed WyCal pipeline crosses this crucial summer habitat for approximately 1.5 miles.

WY-26 (cont.) The proposed route would traverse a total of three miles of bighorn crucial summer habitat in the northern New York Mountains.

WY-27 • Section 3.2.2.7.3 Grazing

WyCal believes that the North Las Vegas Variation crosses three BLM grazing allotments, not ten as stated at Draft Suppl., Vol. VI, p. 3-44.

Recommended Change:

Change the reference in Section 3.2.2.7.3 from "10" BLM livestock allotments to "three".

WY-27 Comment accepted, see Vol. VI, Section 3.2.2.7.3.

WY-28 • Section 3.2.2.9 Land Ownership/Use

WyCal has determined that not all of the 40.5 miles of the route which is federal land along the North Las Vegas Variation is under the jurisdiction of the BLM. Draft Suppl., Vol. VI, p. 3-46. The Bureau of Reclamation controls 3.5 miles of the 40.5 miles, while the BLM controls the remaining 37 miles.

Recommended Change:

(a) At Draft Suppl., Vol. VI, p. 3-46, change Table 3.2-13 to read as follows:

LAND OWNERSHIP, NORTH LAS VEGAS VARIATION

County, State	Total	Private Miles	Private %	BLM Miles	BLM %	Bureau of Reclamation Miles	Bureau of Reclamation %
Clark, NV	41.5	1.0	(2)	37.0	(89)	3.5	(9)

WY-28 Comment accepted, see Vol. VI, Table 3.2-13.

WY-29 • Table 4.2-1 Total Estimated Construction Emissions, WyCal Pipeline Proposal

Table 4.2-1 (Draft Suppl., Vol. VI, at p. 4-2) indicates that PM_{10} was calculated at 65% of TSP. This overstates the case substantially. EPA's Compilation of Air Pollutant Emission Factors (AP-42 4th Ed. September 1985) notes, at page 11.2.1-3, that PM_{10} is 36% of TSP. Since most construction is akin to driving vehicles on unpaved surfaces, the estimated construction emissions should reflect similar values. Finally, it should be noted that the referenced pollutants should be NO_x and SO_2, and not NO and SO.

Recommended Changes:

(a) Change Table 4.2-1 under the Column headed PM_{10} to read:

Pipeline	0.71
Compressor Stations	15.81
Sales Meter Stations	0.23

WY-30 • Section 4.2.1.1 Installation/Construction Emissions and Impacts:

It is concluded in this section that "pipeline construction could exacerbate the existing 8-hour CO standard violation in Kern County". Draft Suppl., Vol. VI, at p. 4-3. While air quality impacts due to construction may exacerbate existing CO problems in Kern County, such impacts would be very short-lived and their lack of persistence should be noted in this discussion. Overall, construction of WyCal's pipeline will have beneficial impacts on air quality in Kern County, as noted

WY-29 The calculation of PM_{10} was consistent with the methodologies utilized in the FEIR/S.

WY-30 Comment accepted, see Vol. VI, Section 4.2.1.1. This would also be true for the other applicants.

WY-30 (cont.) elsewhere in the Draft Suppl. (see, Vol. III Supplement, at p. 1-71).

Recommended Change:

Add an additional sentence of the second paragraph on page 4-3 to read as follows:

> "Any short-term air quality impacts associated with the construction of WyCal's pipeline in Kern County will be more than offset by the long-term improvements to air quality in Kern County as a result of the use of natural gas in EOR operations.

WY-31

- Table 4.2-2 Construction of WyCal Pipeline through Kern County, California:

This table adds background air pollution to project increments to obtain total project impacts. Draft Suppl., Vol. VI, p. 4-4. WyCal believes that this is inappropriate since background levels of air pollutants cannot be ascribed to the project's impacts. Hence, the heading "Project Impacts" is misleading and should be removed.

This Table also indicates that PM_{10} was calculated as 55% of TSP. However, WyCal believes that the appropriate calculation is 36%, as discussed previously in connection with Table 4.2-1. Where estimates of TSP are employed, WyCal contends that the correct value for the proportion of total suspended particulates that represents inhalable particulates (PM_{10}) is 36%. Where actual values of TSP are available, as in the background levels of pollutants, the estimate of the proportion of TSP that is PM_{10} should be 45%. Sampling devices are said by EPA to collect only 80% of the available TSP, missing some of the larger sized

WY-31	Comment partially accepted, see Vol. VI, Table 4.2-2. Also see response to WY-29.

WY-31 (cont.) particles (see AP-42, supra). Thus 0.36/0.80 equals 45%. Hence, WyCal further believes that the background levels of PM_{10} should be reduced.

Recommended Changes:

(a) Remove the heading "Project Impacts" from Table 4.2-2.

(b) In Table 4.2-2, change the figure for PM_{10} under the column "Project Increment" from 485 to 269; change the figure for PM_{10} under the column "Background" from 180 to 148. The total, accordingly, should be changed from 665 to 417.

(c) In Table 4.2-2, under the column "Primary", the primary Federal twenty-four hour standard for PM_{10} should be included at 150 ug/m^3.

WY-32
- Table 4.2-4 Annual Air Pollution Emissions, WyCal Compressor Stations:

See, the first paragraph of the discussion above regarding Table 4.2-2. The same argument applies to this Table, and the heading "Project Impacts" should be removed. In addition, the referenced pollutants on this Table should be NO_x and SO_2, not NO and SO.[5]

WY-33
- Table 4.2-7 Significance of Impacts on Aquatic Communities, WyCal Pipeline Proposal

WyCal intends to cross the Colorado River in the vicinity of Topock by suspending the pipeline from the existing Highway 66

---

[5] This also applies to Table 4.2-3, Draft Suppl., Vol. VI, p. 4-5.

WY-32 Comments accepted, see Vol. VI, Table 4.2-4.

WY-33 There is some question in staff's mind whether WyCal can use the existing Highway 66 bridge owned by El Paso. Prior to this comment, WyCal has been silent on whether an aerial or water crossing would occur. Thus, staff chose the latter case as a conservative analysis and retains such in the Final Supplement.

WY-33 (cont.) bridge, the same as proposed for the Mojave mainline. See, FEIS, Vol. I, Section 2.2.2.2. This would result in temporary, insignificant impacts to aquatic resources during construction, not significant impacts as noted in Table 4.2-7 (Draft Suppl., Vol. VI, p. 4-17). WyCal accordingly disagrees that there may be significant impacts at this crossing.

Recommended Change:

At Draft Suppl., Vol. VI, p. 4-17, delete the following line entry from Table 4.2-7:

Colorado River WL 1.2 S

WY-34
- Table 4.2-9 Significant Wildlife Impacts, WyCal Pipeline Proposal

The Staff indicates in Table 4.2-9 that pronghorn wintering habitat can be found between the milepost 0 to 20 segment and also between the milepost 21 to 40 segment. On the other hand, WyCal's wildlife analysis for the Wyoming segment indicated that pronghorn crucial winter range is found only in the milepost 0 to 20 segment. Draft Suppl., Vol. VI, p. 4-23. WyCal thus questions whether the milepost 21 to 40 segment is known to provide crucial winter range for pronghorn.

Recommended Change:

In Table 4.2-9, delete the letter "P" under the column "Wintering big game" adjacent to the line "Milepost 21-40".

- Section 4.2.8.1 Population, Housing and Economic Impacts

The Staff asserts that there "will be significant effects from this project as a result of the demands for housing". Draft

WY-34 As noted under the response to WY-20, Table 3.1-5 is correct as it is presented in the Supplement. This table depicts critical pronghorn winter range within the 0-20 MP Segment at MP 1.7-2.7 and 18.7 and 20.0. It also delineates critical pronghorn winter range within the 20-40 MP Segment at MP 20.0-24.1. Consequently, no change to Table 4.2-9 is necessary.

WY-35 Suppl., Vol. VI, p. 4-25. However, the significant effects resulting from housing demands may well be beneficial, in the form of increased income to the community. Any potential adverse effects, such as potential alteration of community social structure, could be successfully mitigated if work camps are set up to house workers.

Recommended Change:

In the third paragraph of Section 4.2.8.1, change the first sentence to read as follows:

> Impacts from the project as a result of demands for housing will generally be beneficial, in the form of increased income to the community, and any negative impacts can be successfully mitigated.

WY-36
- Section 4.2.8.1 Population, Housing, and Economic Impacts:

The Staff asserts that 164 persons would be needed to operate the pipeline. Draft Suppl., Vol. VI, at p. 4-26. WyCal estimates that about 45 people would be needed to operate the pipeline, including 6-8 people to operate each compressor station. WyCal cannot substantiate Staff's number of 164 persons.

Recommended Change:

Strike the second full paragraph on at Draft Suppl., Vol. VI, p. 4-26, or amend the reference to "164" persons to "45" persons.

- Section 4.2.9.1 WyCal Mainline:

As noted previously, WyCal urges that the FEIS and the Supplemental FEIS be used as the Record of Decision on amendments to the Kemmerer Resource Management Plan, as discussed above.

WY-35 Present language stands. The beneficial impacts are discussed in paragraph 1 of Section 4.2.8.1. The impact sections, as written, are not based on the mitigation measures presented later in the EIS.

WY-36 Comment accepted, see Vol. VI, Section 4.2.8.1.

WY-37 Recommended Change:

Add to the end of the first paragraph (Draft Suppl., Vol. VI, at p. 4-37) the following sentence: "The Staff recommends utilization of the FEIS and Supplemental FEIS in these proceedings as records of decision in order to make these minor changes."

- Section 4.2.9.1 WyCal Mainline

WyCal has routed its pipeline facilities in the State of Wyoming to locate its system as closely as possible to existing gas supply sources located in major producing regions. The purpose of this routing was to obviate the need for construction of extensive supply connection facilities, with the benefit of reducing potential impact to the environment. The Staff observes that "[c]onstruction of the pipeline and associated facilities within portions of the Kemmerer Resource Area may be incompatible with policies established as part of the Resource Management Plan." Draft Suppl., Vol. VI, at p. 4-37. This is a reference to the BLM's 1986 Kemmerer Resource Management Plan, Record of Decision. WyCal notes, however, that the BLM has concluded in such Record of Decision that public lands in this general area are generally compatible with oil and gas development.

In addition, WyCal submits that there are significant environmental advantages to the proposal by WyCal to locate its receipt facilities in close proximity to existing, major gas supply sources. This will obviate the need for construction of extensive facilities connecting to WyCal's mainline, which in

WY-37 See response to WY-5.

turn will reduce potential impacts to the environment. This advantage over the Kern River proposal is not adequately reflected in the Staff's analysis.

Recommended Changes

WY-38 1. Substitute second sentence of, and add new third sentence to, Section 4.2.9.1 as follows:

> Construction of the pipeline and associated facilities within portions of the Kemmerer Resource Area may be incompatible with policies established as part of the Resource Management Plan, although no such incompatibility has been identified. The Resource Management Plan concludes that public lands in this general area have been determined to be suitable for oil and gas leasing development subject to certain resource management protections that can be developed as required.

WY-39 2. In the last sentence of Section 4.2.9.1, change "these" to "any".

WY-40 3. Add to the end of the first sentence of Section 4.2.9.1:

> , which will be located closer than Kern River to supply sources such as gas processing plants.

- Section 4.2.10.1 Archaeology

In the last partial paragraph at Draft Suppl., Vol. VI, p. 4-37, WyCal requests clarification as to whether Sensitivity Segment 1 extends from mileposts 0 to 27 and Segment 2 from mileposts 27 to 54. In addition, WyCal submits that if the surveyed pipeline centerline avoids sites contained in the present FEIS analysis of the direct impact zone (200-foot wide band encompassing the assumed pipeline centerline based on

WY-38 Comment accepted, see change in Vol. VI, Section 4.2.9.1.

WY-39 Ibid.

WY-40 Comment not accepted. Until the actual sources of the gas are contractually committed, this statement is premature.

available information), then these sites would not be impacted. The reference to "Impacted sites" should therefore reflect this potentiality.

In addition, the Staff states that there are no sites within either the direct or indirect impact zones of Segment 2. Draft Suppl., Vol. VI, p. 4-38. This yields a site density of 1, which was rated as "low" sensitivity. In the last sentence of this section, however, it is stated that the "low" sensitivity grade is "upgraded to moderate due to the presence of unassessed but probably National Register - eligible historic trail segments". WyCal requests clarification as to the approximate extent and location (direct vs. indirect impact zone) of the historic trail segments referred to that would raise the sensitivity of Segment 2 to "moderate".

Recommended Change:

WY-41 (a) In Section 4.2.10.1, first paragraph, identify the mileposts for the two described segments.

WY-42 (b) In Section 4.2.10.1, third paragraph, delete "Impacted sites" and substitute therefor "Sites that might be impacted depending upon the location of the pipeline centerline".

WY-43 (c) In Section 4.2.10.1, describe the extent and location of the historic trail segments referred to in the last paragraph.

- Section 4.3.2.4 Surface Water

It should be noted that between mileposts 109.5 and 151 drainages crossed by the proposed route are either intermittent or dry streams and contain no aquatic resources. Draft Suppl.,

WY-41	Segment 1 goes from MP 0-27.2; Segment 2 goes from MP 27.2-54.4.
WY-42	Comment accepted, see Vol. VI, Section 4.2.10.1.
WY-43	The location of trail segments are approximate and their integrity unassessed. This will be resolved at such time as intensive surveys are conducted.

WY-44 Vol. VI, p. 4-67. Therefore, the general impacts described in the FEIS, Vol. II, Sections 4.2.4.1.4 and 4.4.4.4 (Surface Water) would not be very similar to those impacts (essentially none) between mileposts 109.5 and 151 as stated in the Draft Suppl. For example, neither the Muddy River or Las Vegas Wash, which are perennial streams, is crossed between mileposts 109.5 and 151.

Recommended Change:

Change Section 4.3.2.4 to read as follows:

> Since the drainages crossed by WyCal's Nevada segment of the North Las Vegas Variation are either intermittent or dry streams, they contain no aquatic resources and, therefore, no impacts will occur.

- Section 4.3.2.6 Freshwater Biology

(See discussion immediately above regarding "Surface Water"; revise this section accordingly)

WY-45
- Section 4.3.2.7.1 Vegetation

WyCal's vegetation analysis for mileposts 109.5 to 151 indicated that about 208 acres of creosote bush community would be disturbed (using a 100-foot-wide right-of-way). Another 278 acres of desert shrub, sagebrush, and to a much lesser extent desert wash/riparian community types would be disturbed. This differs noticeably from the Staff's estimate of 490.9 acres of Class I impacts to creosote bush. Draft Suppl., Vol. VI, P. 4-67. WyCal requests clarification as to the basis for this difference.

WY-44 See addition to Vol. VI, Section 4.3.2.

WY-45 Ibid.

WY-46 • Section 4.3.2.7.2 Wildlife

Recommended Change

For clarification, WyCal requests that the last sentence of this Section (Draft Suppl., Vol. VI, p. 4-70) be amended as follows:

> Potential destruction of any water source within desert bighorn sheep crucial habitat located within the project ROW corridor.

WY-47 • Table 4.3-11 Construction and Operation Disturbance By Land Ownership, North Las Vegas Variation:

WyCal's compressor stations are expected to occupy 10 acres, not the stated 12. Draft Suppl., Vol. VI, p. 4-72. This can be determined from the "Typical Compressor Station Layout" shown on Figure 2.2-2, id, at p. 2-5, which depicts an area of 660 feet by 660 feet.

Recommended Change:

In footnote 1, change the reference to "12 acres" to "10 acres".

• Table 4.3-12 Construction and Operation Disturbance By Land Use, North Las Vegas Variation:

See discussion above regarding Table 4.3-12.

WY-48 • Section 4.3.2.10.1 Archaeology

Staff states that "[d]ue to the nearness of Ivanpah and Roach Lakes, Segment 5 is assigned a sensitivity rating of moderate, in spite of its low site density." Draft Suppl., Vol. VI, p. 4-73. WyCal seeks clarification as to why a sensitivity rating of

WY-46 Comment accepted, see Vol. VI, Section 4.3.2.7.2.

WY-47 Comment accepted. Changes made.

WY-48 The Cultural Resources Technical Report for the Mojave-Kern River-El Dorado projects outlines a number of features which would increase cultural resources sensitivities. The report states that "elementary terrain analysis was utilized to complement the other criteria. For example, if an area was to be assigned a 'low' sensitivity rating based on site density, register status, and tribal land data, it might be assigned a 'moderate' rating if the route crossed a major water source in an area that had not yet been mentioned. Water source types utilized in this fashion include rivers, lakes, large marsh areas, dry lakes, and major washes (which would have been important sources during wet periods) as well as areas dotted by numerous springs."

WY-48 (cont.) "moderate" was assigned to Segment 5 in light of the proximity of Ivanpah and Roach Lakes.

WY-49
- Section 4.3.2.11 Paleontological Resources

WyCal respectfully requests elaboration of "the 31.4 miles of significant formations. . . represented by new alignments". Draft Suppl., Vol. VI, p. 4-73. WyCal's environmental studies did not reveal the existence of any such formations.

WY-50
- Section 4.4 Cumulative Impacts

At Table 4.4-1, Vol. VI, the Staff has listed the cumulative effects that the WyCal project would produce in connection with certain specified "major overlapping scheduled projects", but does not address the impacts associated with the construction of one, two or three pipeline projects. The Staff concludes that the latter analysis, though urged by some parties to the proceeding, is not warranted because "the assumption of potential multiple projects is not a reasonable one, which is required under the [CEQ's] definition of 'cumulative impact'". Draft Suppl. Vol. VI, at p. 4-79. As more fully clarified in its Initial Brief on Environmental Issues dated August 22, 1988 in the consolidated Mojave proceedings, WyCal takes no position with respect to this assertion by the Staff. WyCal does contend, however, that with proper planning and through the implementation of appropriate mitigation measures, the cumulative impacts associated therewith will not prevent the construction and operation of multiple pipelines within acceptable environmental

WY-49 These miles of significant formations are due to areas of Quaternary Alluvium which have the potential to contain vertebrate remains. This designation is consistent with the criteria established in the Paleontologic Resources Technical Report.

WY-50 As stated on page 4-80 of the Draft Supplement, staff has not conducted such a cumulative analysis. It further states that the reader does have the option of adding up the impacts associated with each individual project and come up with a hypothetical cumulative impact which may or may not be associated with the construction of two or more of the pipeline projects. It would appear that WyCal has exercised this option. It is not staff's intent here to agree/disagree or adopt this hypothetical cumulative impact analysis. As staff testified before the administrative hearings at FERC concerning the accuracy of such an analysis, the environmental impacts may be overstated in several resource areas (i.e., may or may not be additive) and there may be isolated cases where the addition of project specific impacts could produce a synergistic effect (i.e., greater than the combination of the individual impacts). These synergistic impacts, however, may be offset where they may be overstated along the rest of the route.

The fact, however, remains that absent a determination of need, the assumption of potential multiple projects is not a reasonable one, which is required under CEQ's definition of "cumulative impact". Staff would also note that the WyCal analysis assumed that the pipelines would be parallel and not overlap. No such data was presented in the original FEIR/S or this Supplement which portray two or three separate rights-of-way in the same corridor. In fact, the WyCal route specifically utilizes the rights-of-way proposed by Kern River and Mojave. Thus, information on a parallel WyCal route is not obtainable from the FEIR/S or this Supplement. Furthermore, in mountainous terrain in Utah and/or the Tehachapi Mountains in California, engineering and/or geotechnical constraints would prohibit two or more pipelines parallel to each other, let alone in the same corridor. In addition, studies would have to be conducted as to where one larger diameter line should be built rather than multiple lines.

WY-50 (cont.) limits. This position is fully supported by the data contained in the detailed cumulative impacts analysis contained in Part III of these Comments.

WyCal respectfully requests that the detailed cumulative impacts analysis be incorporated into the Supplemental FEIS. This will eliminate the controversy regarding the requirement for the performance of such a study, see, e.g. Draft Suppl., Vol. VI at p. 4-79, and will enable the Commission to have before it a comprehensive record on this particular issue.

VOLUME III SUPPLEMENT

WY-51
- Section 1.5.1 WyCal Proposal

(a) Staff asserts that "significant" impacts would occur to the Parker 400 ORV race route and to the Pacific Crest National Scenic Trail. Draft Suppl., Vol. III Supplement, at p. 1-78. WyCal's crossing of the Pacific Crest National Scenic Trail and the Parker 400 ORV race route can be mitigated with conventional construction techniques to prevent any impacts in these areas. Moreover, the crossings would be achieved at times of no use (the ORV race route) or little use (the Scenic Trail) to prevent or minimize construction impacts. Any disturbed areas would be returned to their original character using standard mitigation techniques.

Recommended Change:

At Draft Suppl., Vol. VI, p. 1-78, strike the references to "the Parker 400 ORV race route" and to the "Pacific Crest National Scenic Trail" from the first partial paragraph. Insert

WY-51 These issues are the subject matter of the FEIR/S and beyond the scope of comment sought on the WyCal Supplement. The analysis is consistent with that afforded Mojave and Kern River. As stated in the Draft Supplement, the scope of the comments must be limited to that discussed in Section 1.2 of the Introduction. The comment period for old issues is closed.

WY-51 (cont.) the following sentence at the end of such partial paragraph:

> Any impacts to the Parker 400 ORV race route and the Pacific Crest National Scenic Trail can be successfully avoided or mitigated by timing construction during periods of little or no use.

(b) The Staff asserts that (id.):

> While direct construction impacts to the Rainbow Gardens area would be both short and potentially long-term, the longer term implications of facilitating access to the area are of substantial concern. Given the potential to accelerate degradation of the area, this impact is considered significant.

There are already impacts on Rainbow Gardens from a variety of sources which arise from the proximity of the Gardens to a growing urban area. WyCal respectfully suggests that the development of WyCal's pipeline is not likely to accelerate any adverse impacts.

Recommended Change:

Substitute the paragraph quoted above with the following:

> While direct construction impacts to the Rainbow Gardens area are of concern in terms of facilitating increased access, it is recognized that the substantial urban growth in the same vicinity is as likely to contribute to access. Use of mitigation measures to control such access should alleviate any access associated with WyCal's project.

(c) The Draft Suppl. next states that the "proposed action is not in compliance with the Master Plan for the proposed Clark County Wetlands Park". Id. WyCal's contacts with the administrators of the Clark County Wetlands Park indicate that WyCal's proposed construction across the Park can be successfully

WY-51 (cont.) completed with appropriate mitigation measures, and therefore believes that the Draft Suppl. overstates the impact.

Recommended Change:

Substitute the first sentence of the penultimate paragraph (Draft Suppl., Vol. III Supplement, at p. 1-78) as follows:

> To the extent that the proposed action is not in compliance with the Master Plan for the proposed Clark County Wetlands Park, it was indicated in comments filed by WyCal that WyCal's proposed construction could nevertheless be successfully completed with the use of appropriate mitigation measures.

(d) The Staff asserts that WyCal's route would "conflict with land use plans for the City of Henderson, Nevada". Id. WyCal acknowledges that its proposed routing in the vicinity of the City of Henderson, Nevada, currently conflicts with the City's land use plan; however, communication between WyCal and the City indicates an alternate route mutually acceptable to the parties can be developed and the city has not shown any formal opposition to WyCal's proposal.

Recommended Change:

Amend the last sentence of the penultimate paragraph (Draft Suppl., Vol. III Supplement, at p. 1-78) as follows:

> The route could also conflict with land use plans for the city of Henderson, Nevada, however it has been indicated that mutually acceptable route alternatives can be worked out between the City and WyCal. Staff notes that the City did not show any formal opposition to WyCal's proposal at the public meeting conducted in Las Vegas, Nevada on August 22, 1988.

WY-51 (cont.) (e) Finally, Staff asserts that WyCal's proposed Transwestern Supply Lateral would "conflict with zoning regulations around the Golden Shores Subdivision" and would "conflict with the land use of the Havasu NWR and lies outside of the utility corridors in the Yuma BLM District". Id. However, WyCal's route in the vicinity of the Golden Shores Subdivision crosses property currently zoned commercial but which is currently not being developed. In addition, WyCal's proposed Transwestern Supply Lateral will utilize existing utility corridors through the Havasu NWR and the Yuma BLM District; therefore, there is no conflict with land uses of either governmental agency.

Recommended Change:

At Draft Suppl., Vol. III Supplement, p. 1-78, strike the first sentence of the last paragraph, and re-word the second sentence as follows:

> The Transwestern Supply Lateral will utilize existing utility corridors through the Havasu NWR and the Yuma BLM District, and therefore does not conflict with land uses of either governmental agency.

WY-52 • Table 1.6-1 Interstate Systems Comparions

Recommended Change

As discussed previously, inasmuch as WyCal's proposal does not include the El Paso base case, references thereto should be removed from the table and supporting text.

WY-52 See staff previous response to WY-10.

- Section 3.0 Conclusions and Recommendations:

(Advantages of WyCal's Open Access Program to the Human Environment)

The Staff concludes that, "[i]n an environmental sense, WyCal embodies the best and worst of both the Kern River and Mojave Projects." Draft Suppl., Vol. III Supplement, page 3-2. The "worst" side of this equation appears to be a derivative of the Staff's premise that the "Kern River and WyCal systems entail substantially more miles of pipeline construction" with greater resultant impact to the environment. Id. page 3-3.

While WyCal will involve more miles of construction than either Kern River or Mojave, WyCal believes the Staff's analysis of the "best" side of the equation contains two omissions: a fuller description of the varied supply alternative superiorities of WyCal, and recognition of the significant positive advantages to the "human environment" of WyCal's open access program that were not previously analyzed in the FEIS. [6]

WY-53 As to the former, Staff seeks comments on the philosophy "that because WyCal proposes to receive gas from both the supplies of Kern River and Mojave, it offers more flexibility of service and that the cost for this increased flexibility is additional impact to environmental resources". Draft Suppl., Vol. III Supplement, p. 1-104. Again, this inquiry understates (albeit, implicitly) the positive effects of WyCal by assuming that this admitted, greater flexibility of WyCal is achieved only

---

[6] This is distinct from the "socioeconomic impacts" of WyCal's proposal analyzed at Draft Suppl., Vol. VI, Sections 4.2.8, 4.3.1.8, and 4.3.2.8.

WY-53 This comment is confusing. It appears to be arguing that if Kern River or Mojave prove incorrect in terms of satisfying supply needs, then other (non-WyCal) projects would have to fulfill the deficiency, thus causing future environmental consequences which WyCal (by building today) would avoid. The staff feels that this line of reasoning is clearly speculative. It also doesn't explain that if the supply sources of Kern River and/or Mojave fail, WyCal's would also.

WY-53 (cont.) at some "cost". This is not so. WyCal proposes to connect gas supplies both from the mid-continent and the Overthrust areas. This will facilitate and encourage greater usage of cleaner burning natural gas in Kern County, California by providing greater access to supply sources on a firm basis (which the intrastate pipelines cannot provide, as demonstrated by recent, well publicized curtailments) and at competitive rates. Thus, the possible future environmental consequences inherent in Kern River and Mojave are avoided by WyCal. Should the choice of either Kern River or Mojave prove incorrect in terms of satisfying supply needs, then other future projects presumably would be presented to fulfill the deficiency. Such possible future projects would have their own environmental consequences. This is avoided by the diversity which WyCal now offers.

WY-54 Moreover, as stated elsewhere in these comments, there is no basis to assume that WyCal's facilities in Wyoming will have greater impact upon the environment, since WyCal has attempted to locate its facilities as nearby as possible to major supply sources. When all of this is considered with the supply

WY-55 diversity that is completely superior to the proposals of Kern River and Mojave, WyCal submits that the Draft Suppl. unfairly characterizes WyCal as a project that should receive inferior ranking solely on account of its additional length.

As to WyCal's adoption of open access, the regulations implementing NEPA contemplate that the human environment be fully considered (40 CFR §1508.14) (emphasis added):

> When an environmental impact statement is prepared and economic or social and natural or physical environmental effects are inter-

WY-54 Other than the statement referenced in WyCal comment WY-16 (which staff has accepted) the staff did not make such a conclusion for facilities in Wyoming. Until actual contracts are signed and the exact gathering system known, this conclusion would be premature for facilities in Wyoming.

WY-55 It is not unfair to conclude that additional facilities result in additional environmental impacts. This is simply fact.

Futuristic economic benefits may be a positive secondary impact, although such future growth opportunities will have their own associated environmental impacts which will be analyzed at that time. Both, however, would require speculative analysis that this time are not required by NEPA. Thank you for your comment. No changes to the EIS required.

WY-55 (cont.)

> related, then the environmental impact statement will discuss all of these effects on the human environment.

The FEIS has identified the significant environmental advantages (e.g. improvements to air quality) that pertain to the usage of natural gas in the EOR process, see, e.g., Draft Suppl., Vol. III Supplement, at p. 1-5, and has also described the advantages of new interstate pipeline facilities in terms of satisfying firm supply needs. Draft Suppl., Vol. VI, at p. S-5. However, only WyCal, of the three pipeline applicants, has committed itself to the open access strictures under the Commission's Order Nos. 436/500. This means that non-EOR shippers who complete successful negotiations with WyCal will be able to obtain service from WyCal. In the case of large volume industrial customers, such as United States Borax & Chemical Corporation, this will result in substantial economic and social advantages to those customers, to the geographic region, and to the nation as a whole. U.S. Borax previously outlined these advantages in its January 14, 1988 "Comments With Respect to the Proposed Scope of Supplement to Environmental Impact Statement" (Comments at 5-6):

> Service by an interstate pipeline to Kern County will provide broader economic benefits. For example, the availability of reliable gas at competitive rates to non-EOR industrial customers will make these industrial entities more competitive in their own markets, thus providing employment security for existing employees and providing the potential for industrial expansion and an increased employment base in California. In this connection, jobs, income and tax revenue resulting from such industrial expansion would also increase. Finally, the reduction of fuel costs to U.S. Borax and similarly situated non-EOR customers would enable these customers

WY-55 (cont.)

> to be more competitive in U.S. and foreign markets with important consequences for the United States' balance of payments and trade deficit. This potential is particularly evident in the case of U.S. Borax, which is a major supplier in the world borate market.
>
> All of these consequences represent positive environmental impacts which will result from service to non-EOR industrial customers by the proposed WyCal pipeline.

These socioeconomic advantages of the WyCal project should also be reflected in the Supplemental FEIS. That is, the greater societal advantages of WyCal's commitment to open access deserve recognition in the environmental analysis. As the CEQ's regulations suggest, "an environmental impact statement should at least indicate those considerations, including factors not relating to environmental quality, which are likely to be relevant and important to a decision." 40 C.F.R. §1502.23.

Recommended Changes:

(a) At Draft Suppl., Vol. III Supplement, p. 1-104, strike the last three sentences, and insert the following replacement language:

> The WyCal proposal, although physically longer than either Kern River or Mojave, is environmentally superior in two important material respects. By providing shippers with the greatest supply diversity, with fewer or even less impacts in Wyoming than Kern River, WyCal provides the greater opportunity for achieving the long-term environmental benefits to Kern County, California. In addition, by enbracing open access, WyCal will bring significant advantages by providing a broad range of economic opportunity for industrial and other customers seeking gas supplies at competitive transportation rates.

(b) At Draft Suppl., Vol. III Supplement, p. 3-2, add to the last sentence of the last full paragraph the following:

WY-55 (cont.)

However, as noted previously, WyCal has two distinct advantages from an environmental perspective, namely, greater supply diversity and a broader range of economic opportunity, which will serve to promote the human environment.

- Section 3.1 Mitigation Measures - Sequential Construction

In addition to incorporating those contained in the FEIS [7], the Staff has proposed one additional recommended mitigation measure to be applicable solely to WyCal:

155. The WyCal Proposal shall be constructed in the following sequential manner, dependent on the materialization of market conditions:

    A. The segment of the route from Topock, Arizona, to Bakersfield, California. Consideration should be given at that time of increasing the initial section from Topock, Arizona, to Piute Junction, California, from 24-inch to 36-inch O.D. pipeline.

    B. The Transwestern Supply Lateral should be built second, dependent on market conditions.

    C. The segment from Hams Fork, Wyoming, to Piute Junction, California, with the Wasatch Variation and the North Las Vegas Variation (with its 41-mile extension to reconnect with WyCal's proposed route).

This proposed recommended mitigation measure is stated to be premised upon the Staff's concern that "the segment of the proposed WyCal route from Hams Fork, Wyoming, to Piute Junction,

---

[7] WyCal, unlike the other applicants, has adopted the recommended mitigation measures in the FEIS that would be applicable to its project, except for the recommended utilization of the Wasatch and North Las Vegas Variations. WyCal has nevertheless committed to adoption of these two Variations if they are required by the Commission as a condition to the issuance of WyCal's final certificate.

California, would not necessarily be required if the market does not materialize". Draft Suppl., Vol. III Supplement, p. 3-5. Applying this rationale, the Staff posits whether "a pipeline system similar to Mojave's should be built first". Id. To do this, notes Staff, would require WyCal to increase the size of its line from Topock to Piute Junction from 24-inch to 36-inch O.D. pipeline. Id.

WY-56 WyCal submits that mitigation measure No. 155 is redundant. Since WyCal has been found to be environmentally acceptable over its entire pipeline route, the question of sequential construction may or may not arise. The configuration of WyCal will ultimately depend upon the supply sources and the timing of the market requirements. In the case of an OC applicant such as WyCal, therefore, mitigation measure No. 155 is unnecessary, given the environmental acceptability of WyCal's project, and given the strong incentive WyCal (and its customers) will have to ensure construction of facilities consistent with the market (and, thereby, consistent with the philosophy underscoring the Commission's OC process).

Recommended Changes

(a) Recommended mitigation measure No. 155 should be deleted as being redundant.

(b) At Draft Suppl., Vol. III Supplement, page 3-5, strike the first 22 lines after the words ". . . associated with the WyCal proposal".

(c) Strike the last sentence of Draft Suppl., Vol. VI, page S-25.

WY-56 Measure No. 155 is not redundant. The environmental advantages of being able to construct in stages as the market materializes was an important consideration in determining the environmental acceptability of the WyCal proposal. It is also one of the two major premises in determining Mojave's preferability over Kern River and, if the goals of the project can be met by the intrastate network, their environmental preferability over the interstate proposals. Recommended changes not made in the text.

PART II

ENVIRONMENTAL REPORT
FOR THE
STATELINE SOUTH VARIATION SEGMENT
OF THE
PROPOSED WYOMING-CALIFORNIA PIPELINE PROJECT

Prepared for

WYOMING-CALIFORNIA PIPELINE COMPANY

Prepared by

CH2M HILL
Boise, Idaho

September 1988

CONTENTS

Page

3.0 Affected Environment 3-1
  3.2.3 Stateline South Variation 3-1
    3.2.3.1 Air Quality 3-1
    3.2.3.2 Geology 3-7
    3.2.3.3 Soil 3-12
    3.2.3.4 Surface Water 3-19
    3.2.3.5 Groundwater 3-21
    3.2.3.6 Freshwater Biology 3-22
    3.2.3.7 Terrestrial Biology 3-25
      3.2.3.7.1 Vegetation 3-25
      3.2.3.7.2 Wildlife 3-28
      3.2.3.7.3 Grazing 3-33
    3.2.3.8 Socioeconomics 3-35
      3.2.3.8.1 Population, Housing, and Economic Characteristics 3-35
      3.2.3.8.2 Traffic 3-41
      3.2.3.8.3 Noise 3-42
      3.2.3.8.4 Recreational Resources 3-44
      3.2.3.8.5 Mining 3-48
    3.2.3.9 Land Ownership/Use 3-49
    3.2.3.10 Cultural Resources 3-54
      3.2.3.10.1 Archaeology 3-54
      3.2.3.10.2 American Indian Concerns 3-62
    3.2.3.11 Paleontological Resources 3-64
    3.2.3.12 Visual Resources 3-64

4.0 Environmental Consequences 4-1
  4.3 WyCal Route Variations 4-1
    4.3.3 Stateline South Variation 4-1
      4.3.3.1 Air Quality 4-1
      4.3.3.2 Geology 4-2
      4.3.3.3 Soil 4-4
      4.3.3.4 Surface Water 4-5
      4.3.3.5 Groundwater 4-7
      4.3.3.6 Freshwater Biology 4-7
      4.3.3.7 Terrestrial Biology 4-9
        4.3.3.7.1 Vegetation 4-9
        4.3.3.7.2 Wildlife 4-10
        4.3.3.7.3 Grazing 4-12
      4.3.3.8 Socioeconomics 4-12
        4.3.3.8.1 Population, Housing, and Economic Characteristics 4-12
        4.3.3.8.2 Traffic 4-13
        4.3.3.8.3 Noise 4-14
        4.3.3.8.4 Recreational Resources 4-15
        4.3.3.8.5 Mining 4-17
      4.3.3.9 Land Ownership/Use 4-17

CONTENTS (continued)

Page

4.3.3.10 Cultural Resources 4-18
4.3.3.10.1 Archaeology 4-18
4.3.3.10.2 American Indian Concerns 4-18
4.3.3.11 Paleontological Resources 4-19
4.3.3.12 Visual Resources 4-19
4.3.3.13 System Safety and Reliability 4-21

4.4 Cumulative Impacts 4-22

4.5 Planned and Recommended Mitigation Measures 4-22

References Cited

Appendix D. Bureau of Land Management Off-Road Vehicle Designations for Clark County, Nevada

TABLES

Page

3.2-15 Summary of Ambient Air Quality Standards 3-2

3.2-16 Summary of Relevant Air Quality Data in Nevada and Arizona 3-5

3.2-17 Fish Species of the Colorado River Between Davis Dam and Lake Havasu 3-23

3.2-18 Distribution of Plant Communities Along the Proposed Pipeline Route in Nevada and Wyoming 3-26

3.2-19 Percentage Employment Distribution by Industry for Bullhead City and Mohave County, Arizona, Residents 3-40

3.2-20 Recreational Activities and Visitor-Days for the BLM Black Mountain Planning Unit 3-48

3.2-21 Land Ownership Along the Proposed Pipeline Route 3-53

3.2-22 Cultural Resources Consultations 3-55

3.2-23 Cultural Resources Along the Proposed WyCal Pipeline Route 3-57

FIGURES

3.2-2 Proposed Pipeline Route 3-3

3.2-3 Route Geology 3-8

3.2-4 General Soils Map 3-13

3.2-5 Land Ownership Map 3-50

3.2.3 STATELINE SOUTH VARIATION

3.2.3.1 Air Quality

Table 3.2-15 summarizes federal and State of Arizona primary and secondary standards and State of Nevada standards for some pollutants of interest for the proposed Stateline South Variation pipeline project.

The western (Nevada) end point of the pipeline route is approximately 70 miles south of the Sunrise Mountain Instant Study Area (Figure 3.2-2). Wilderness Areas are classified as Prevention of Significant Deterioration (PSD) Class I areas. The Nevada portion of the proposed route is approximately 10 miles south of the Lake Mead National Recreation Area; PSD regulations for ambient air quality do not apply to this area (Clark County Board of Health, 1987).

Clark County, Nevada, in which a portion of the proposed pipeline route lies, is currently designated as a "non-attainment area" for ozone (O_3), total suspended particulates (TSP), and carbon monoxide (CO). Measurements of ozone at Henderson, southeast of Las Vegas, and Las Vegas were at or exceeded the federal one-hour standard during the

Table 3.2-15
SUMMARY OF AMBIENT AIR QUALITY STANDARDS[a]

Pollutant	Average Time	Federal and Arizona Standards[1]		Nevada Standard
		Primary	Secondary	
Ozone	1 hour[2]	235 ug/m^3 (0.12 ppm)	235 ug/m^3	235 ug/m^3
Carbon Monoxide	1 hour[3]	40 mg/m^3 (35 ppm)	40 mg/m^3	40 mg/m^3
	8 hour[3]	10 mg/m^3 (9 ppm)	10 mg/m^3	10 mg/m^3
Nitrogen Dioxide	1 hour	--	--	--
	Annual	100 ug/m^3 (0.05 ppm)	100 ug/m^3	100 ug/m^3
Sulfur Dioxide	1 hour	--	--	--
	3 hour[3]	--	1300 ug/m^3 (0.50 ppm)	--
	24 hour[3]	365 ug/m^3 (0.14 ppm)	--	365 ug/m^3
	Annual	80 ug/m^3 (0.03 ppm)	--	80 ug/m^3
Particulates (TSP)	24 hour[3]	260 ug/m^3	150 ug/m^3	--
	Annual (Geo. Mean)	75 ug/m^3	60 ug/m^3	--
PM_{10}	24 hour[2]	150 ug/m^3	150 ug/m^3	--
	Annual[2]	50 ug/m^3	50 ug/m^3	--
Lead	30 day	--	--	--
	24 hour	--	--	1.5 ug/m^3
	Quarter year	1.5 ug/m^3	1.5 ug/m^3	--

---

[a] Reference: Mojave-Kern River--El Dorado Natural Gas Pipeline Projects, Final Environmental Impact Report/Statement, Volume II, December 1987.

[1] In micrograms per cubic meter (ug/m^3) and parts per million (ppm).

[2] Not to be exceeded more than one day per year, based on a 3-year running average.

[3] Not to be exceeded more than once per year.

-- Not available or no standard established.

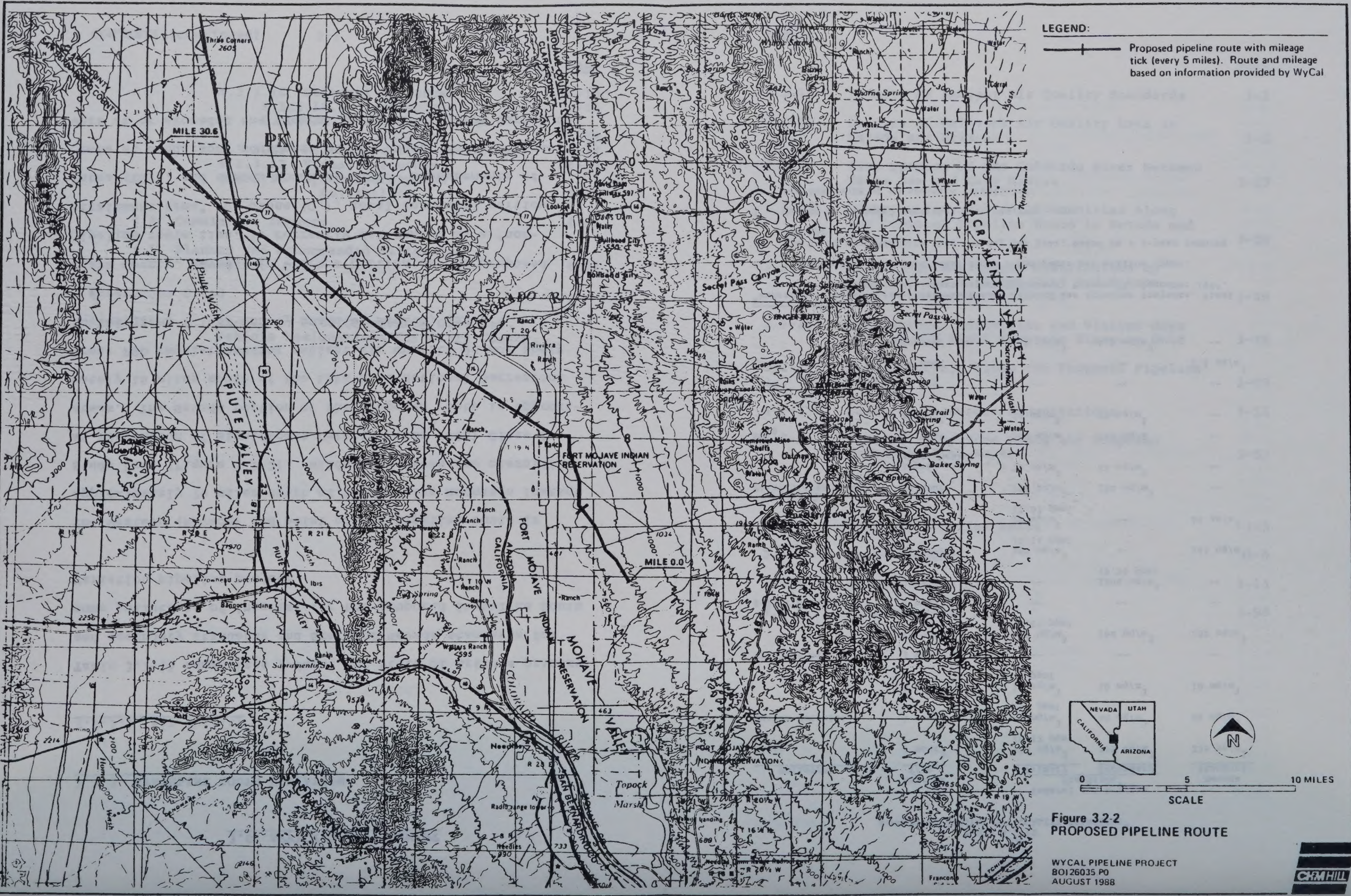

LEGEND:
Proposed pipeline route with mileage tick (every 5 miles). Route and mileage based on information provided by WyCal
MILE 30.6
MILE 0.0
PK QK
PJ QJ
Three Corners
PIUTE VALLEY
PIUTE WASH
COLORADO R
FORT MOJAVE INDIAN RESERVATION
FORT MOJAVE INDIAN RESERVATION
MOHAVE VALLEY
BLACK MOUNTAINS
SACRAMENTO VALLEY
Davis Dam
Bullhead City
Secret Pass Canyon
Riviera
Needles
Topock Marsh
Ibis
CALIFORNIA
ARIZONA
NEVADA
UTAH
N
0
5
10 MILES
SCALE

Figure 3.2-2
PROPOSED PIPELINE ROUTE

WYCAL PIPELINE PROJECT
BOI26035 P0
AUGUST 1988

CH2M HILL

early 1980s (Table 3.2-16). Las Vegas measurements also exceeded the federal total suspended particulates (TSP) (24-hour and annual) and CO 8-hour standards. According to a Clark County Board of Health letter dated May 28, 1987, ozone levels have complied with the federal standard for over 4 years.

Since CO is emitted primarily by urban traffic, CO measurements in Las Vegas may not be representative of rural areas along the proposed pipeline route. TSP levels in the Las Vegas Valley are exceeded due to high levels of fugitive dust (from windblown dust), construction activities, and dust from paved and unpaved roads. Likewise, these TSP measurements may not be representative of those in the rural pipeline area.

Emissions of other relevant pollutants in the Las Vegas Valley and Henderson areas (Table 3.2-16) are below ambient air quality standards (Clark County Board of Health, 1987). Based on conversations with Clark County Board of Health personnel, south Clark County, in which the pipeline would be located, is in compliance with State and Federal ambient air quality standards. However, due to noncompliance in the populated Las Vegas Valley, the entire county is designated as nonattainment for TSP and carbon monoxide (CO).

Table 3.2-16
SUMMARY OF RELEVANT AIR QUALITY DATA IN NEVADA AND ARIZONA[a]

		O_3 (ppm)	NO_2 (ug/m^3)		SO_2 (ug/m^3)				TSP (ug/m^3)		PM_{10} (ug/m^3)		CO (mg/m^3)		
Station	Year	Maximum 1-Hour	Maximum 1-Hour	Annual Mean	Maximum 1-Hour	Maximum 3-Hour	Maximum 24-Hour	Annual Mean	Maximum 24-Hour	Annual Mean	Maximum 24-Hour	Annual Mean	Maximum 1-Hour	Maximum 8-Hour	Number Days[b] Exceeding Std.
Las Vegas, NE	1982	0.11	--	40	--	--	--	--	--	--	--	--	26	22	32
	1983	0.14	--	45	--	--	--	--	1,019	90	459	40	29	19	43
	1984	0.12	--	58	--	--	--	--	310	101	140	45	24	19	21
	1986	--	--	--	--	--	--	--	--	--	--	--	--	--	27
	1987	--	--	--	--	--	--	--	--	--	--	--	--	--	22
Henderson, NE	1982	0.12	--	--	--	--	--	--	--	--	--	--	--	--	--
	1983	0.12	--	--	--	--	--	--	--	--	--	--	--	--	--
	1984	0.12	--	--	--	--	--	--	--	--	--	--	--	--	--
Riviera, AZ[c]	1982	--	--	--	--	175	110	28	93	35	42	16	--	--	--
	1983	--	--	--	--	148	52	28	93	35	42	16	--	--	--
	1984	--	--	--	--	157	57	28	154	42	69	19	--	--	--
	1986	--	--	--	--	198	42	13	182	40	82	18	--	--	--
	1987	--	--	--	--	23	4	1	100	40	45	18	--	--	--
Bullhead City, AR[c]	1982	--	109	29	--	147	42	27	137	70	62	32	--	--	--
	1983	--	115	30	--	100	41	27	209	84	94	38	--	--	--
	1984	--	141	31	--	115	39	27	215	93	97	42	--	--	--
	1985	--	--	--	--	--	--	--	--	96	--	43	--	--	--
	1986	--	167	38	--	162	37	8	154	80	69	36		--	--
	1987	--	42	9	--	25	4	1	200	76	90	34	--	--	--

---

[a] Mojave-Kern River--El Dorado Natural Gas Pipeline Projects, Final Environmental Impact Report/Statement, Volumes I and II, December 1987. PM_{10} calculated from the EPA emission factor as follows: PM_{10} = TSP x 0.45.

[b] Michael Naylor, Clark County Board of Health, Las Vegas, Nevada, letter titled "Air Quality Trends," May 28, 1987.

[c] Data for 1986 and 1987 provided by the Arizona Department of Environmental Quality.

Air quality data for Riviera and Bullhead City, Arizona, located about 2 and 8 miles north of the pipeline route, respectively, are also presented in Table 3.2-16 (Arizona Department of Environmental Quality, 1986 and 1987). TSP standards have been exceeded at both cities. During each of the 2 most recent years for which data are available (1986 and 1987), the secondary TSP 24-hour standard was exceeded 3 days in Bullhead City and 1 day in Riviera. The secondary TSP annual standard has been consistently exceeded in Bullhead City, reflecting the effects of fugitive dust, construction activities, and dust from roadways. None of the other air quality parameters measured at Bullhead City or Riviera exceeded standards. The FEIR/S, I/3.1.1 (1987) stated that Mohave County, Arizona, is in attainment for all pollutants, with exceedances of TSP annual standards occurring as a result of rural fugitive dust.

Estimates of PM_{10} levels were calculated based on the Environmental Protection Agency's emission factor where PM_{10} comprises about 45 percent of TSP (Table 3.2-16). Estimated PM_{10} maximum 24-hour and annual mean values did not exceed federal standards listed in Table 3.2-15, except in Las Vegas in 1983 (estimated maximum 24-hour PM_{10} level of 459 ug/m^3). These data suggest that PM_{10} levels along the proposed pipeline route would not exceed federal standards.

3.2.3.2 Geology

Topography and Physiography. The route lies within the Basin and Range physiographic province, which consists of a series of north-south-trending valleys and mountain ranges (Figure 3.2-2). Valleys consist of gentle alluvial slopes leading from steep range fronts to mid-valley areas where ephemeral lakes occasionally exist. The flood plain of the Colorado River interrupts this terrain, producing a wide river valley filled with alluvial sediments. Where possible, the proposed route is contained in the valleys, and takes advantage of topographic saddles and breaks to avoid high mountain crossings.

Terrain at mile 0.0 in Arizona (Figure 3.2-2) is approximately 750 feet in elevation and drops to about 500 feet in elevation at the Colorado River crossing at miles 8.9 to 9.0. From the river crossing, the route steadily gains elevation to nearly 3,000 feet at mile 20.0. Between mile 20.0 and the end of the route segment at mile 30.6 in Nevada, elevation gradually drops to approximately 2350 feet.

Geologic Conditions. Geology along the proposed pipeline route is shown in Figure 3.2-3 and has been developed primarily from Longwell et al. (1965) and Metzger and Loeltz (1973). From mile 0.0 to the Colorado River crossing at

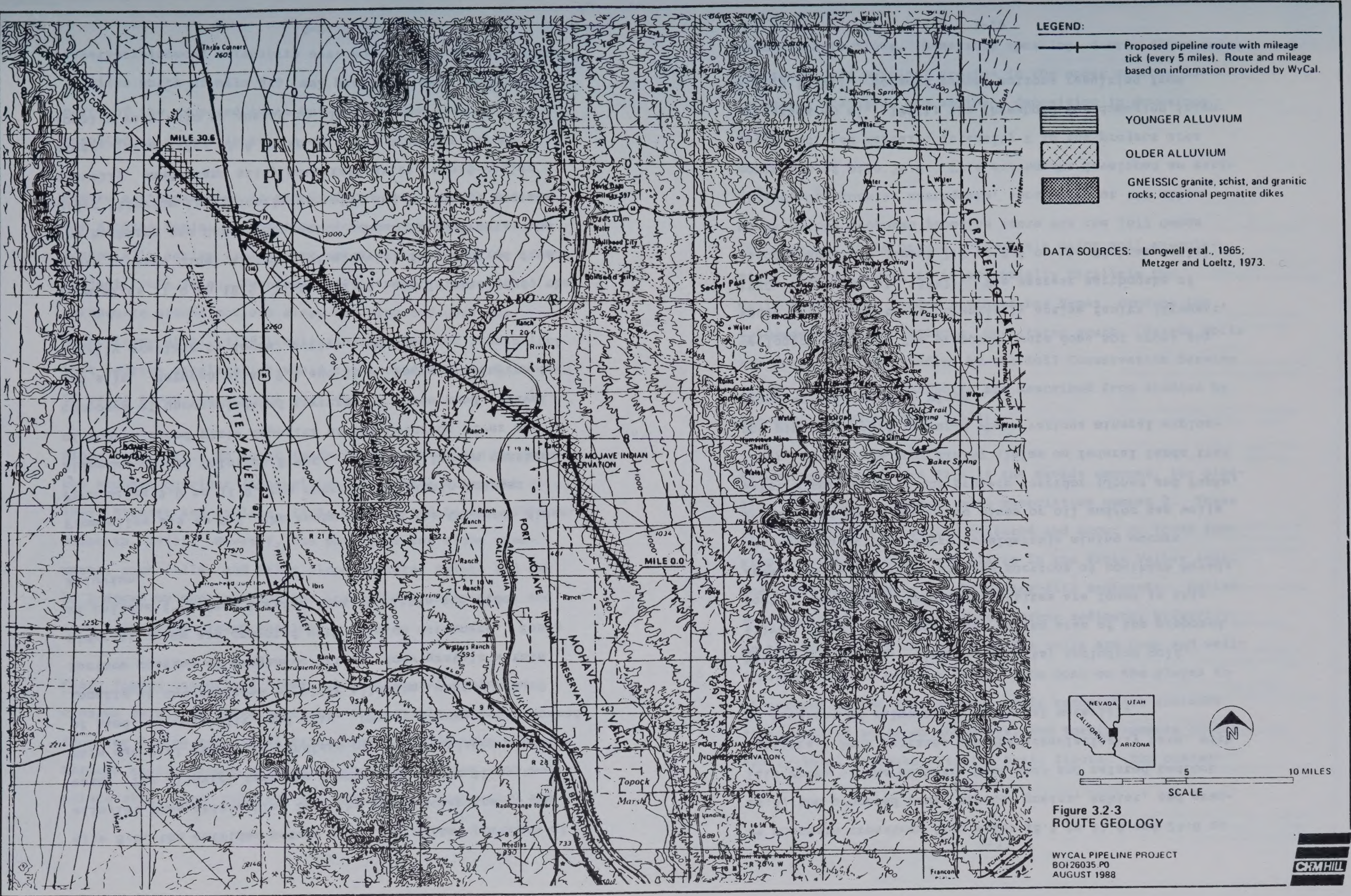

LEGEND:
Proposed pipeline route with mileage tick (every 5 miles). Route and mileage based on information provided by WyCal.
YOUNGER ALLUVIUM
OLDER ALLUVIUM
GNEISSIC granite, schist, and granitic rocks; occasional pegmatite dikes
DATA SOURCES: Longwell et al., 1965; Metzger and Loeltz, 1973.
MILE 30.6
MILE 0.0
PK QK
PJ QS
CLARK COUNTY
SAN BERNARDINO COUNTY
MOHAVE COUNTY
CLARK COUNTY
NEVADA
ARIZONA
NEVADA
CALIFORNIA
PIUTE VALLEY
Piute Wash
COLORADO R
COLORADO RIVER
FORT MOJAVE INDIAN RESERVATION
FORT MOJAVE INDIAN RESERVATION
MOHAVE VALLEY
BLACK MOUNTAINS
SACRAMENTO VALLEY
Sacramento Wash
Secret Pass Canyon
Secret Pass Wash
Riviera
Bullhead City
Davis Dam
Needles
Topock Marsh
Arrowhead Junction
Ibis
Three Corners
Union Pass
Oatman
T 20 N
T 19 N
T 10 N
T 9 N
R 20 E
R 21 E
R 22 E
R 20 W
0
5
10 MILES
SCALE
NEVADA
UTAH
CALIFORNIA
ARIZONA
N

Figure 3.2-3
ROUTE GEOLOGY

WYCAL PIPELINE PROJECT
BOI26035.PO
AUGUST 1988

CH2M HILL

mile 8.9, the corridor passes along the distal portions of alluvial fans originating from the Black Mountains to the east. The alluvial fans are composed of Older Alluvium. This material generally consists of unconsolidated mixtures of sand, gravel, silt, and clay. Desert pavement has formed locally at the surfaces on Older Alluvium, making a hard surface coating of manganese oxide. Some gravels within Older Alluvium are cemented with calcium carbonate. Zones of caliche ("hardpan") exist locally within the Older Alluvium.

From miles 8.9 to 9.0, the route crosses the Colorado River. From miles 9.0 to 11.0, the corridor is within Younger Alluvium of the Colorado River. Younger Alluvium consists of modern flood plain deposits of the Colorado River and is composed of unconsolidated mixtures of loose sand, gravel, and silt. Between miles 9.0 and 11.0, Younger Alluvium is locally overlain by loose, active sand dunes.

From miles 11.0 to 18.5, 21.0 to 23.0, and 24.0 to 30.6, the route crosses Older Alluvium of alluvial fans derived from the Newberry and Castle Mountains. Near range fronts, the Older Alluvium is typically gravelly and bouldery, whereas gravelly, sandy, and silty materials exist in mid-valley areas. From miles 15.0 to 18.5, Older Alluvium may be locally very thin or absent in places.

At mountain crossings from miles 18.5 to 21.0 and 23.0 to 24.0, the proposed route crosses gneiss, schist, and granitic rocks of the Newberry Mountains and related bedrock outliers. Rock surfaces are characteristically bare, with no covering of alluvial or colluvial material.

Mineral Resources. Mineral deposits, including gold, silver, lead, and zinc, occur in the area of the proposed route. Numerous abandoned mine sites are found in this area. While the route crosses portions of southern Nevada and western Arizona where considerable mining occurs locally, no known producing mines or oil and/or gas wells exist within or near the project corridor (Jones and Papke, 1984). There are four mining claims on federal lands that the pipeline would traverse where various mineral exploration activities take place.

Geologic Hazards. The proposed route does not cross any known active faults or potentially active faults (Stewart, 1980; Nakata et al., 1982). The nearest earthquake of strong magnitude (about 7.0 to 8.0 on the Richter Scale) close to the proposed pipeline route was the 1872 Owens Valley, California, earthquake, located about 200 miles northwest of mile 30.6. This earthquake developed an estimated modified Mercalli Intensity V in the project area (Topazada et al., 1981); the threshold for damaging intensities is VII. Seismic ground motions resulting from reservoir-induced seismicity near Hoover Dam, located about 70 miles north of mile 0.0, may have also been felt along parts of the proposed route but are not known to have resulted in damage in this area.

Future earthquakes up to magnitude of about 7.0 to 7.5 on the Richter Scale, originating along many of the active or potentially active faults that exist within 100 miles of the project route (e.g., Jennings, 1975), might also produce earthquake ground motions along the proposed corridor. Algermissen et al. (1982) estimate a 90-percent probability that bedrock acceleration would not exceed 0.06 to 0.10 g in 50 years along the project corridor.

Slope Stability. No known landslides exist within or near the project corridor (Longwell et al., 1965; Wilson et al., 1969; Stewart and Carlson, 1978; Metzger and Loeltz, 1973; Bolborth, 1973). However, the potential for slope movements, rock falls, and talus slope failures exists and can be induced by construction and operational activities, and from earthquake ground shaking.

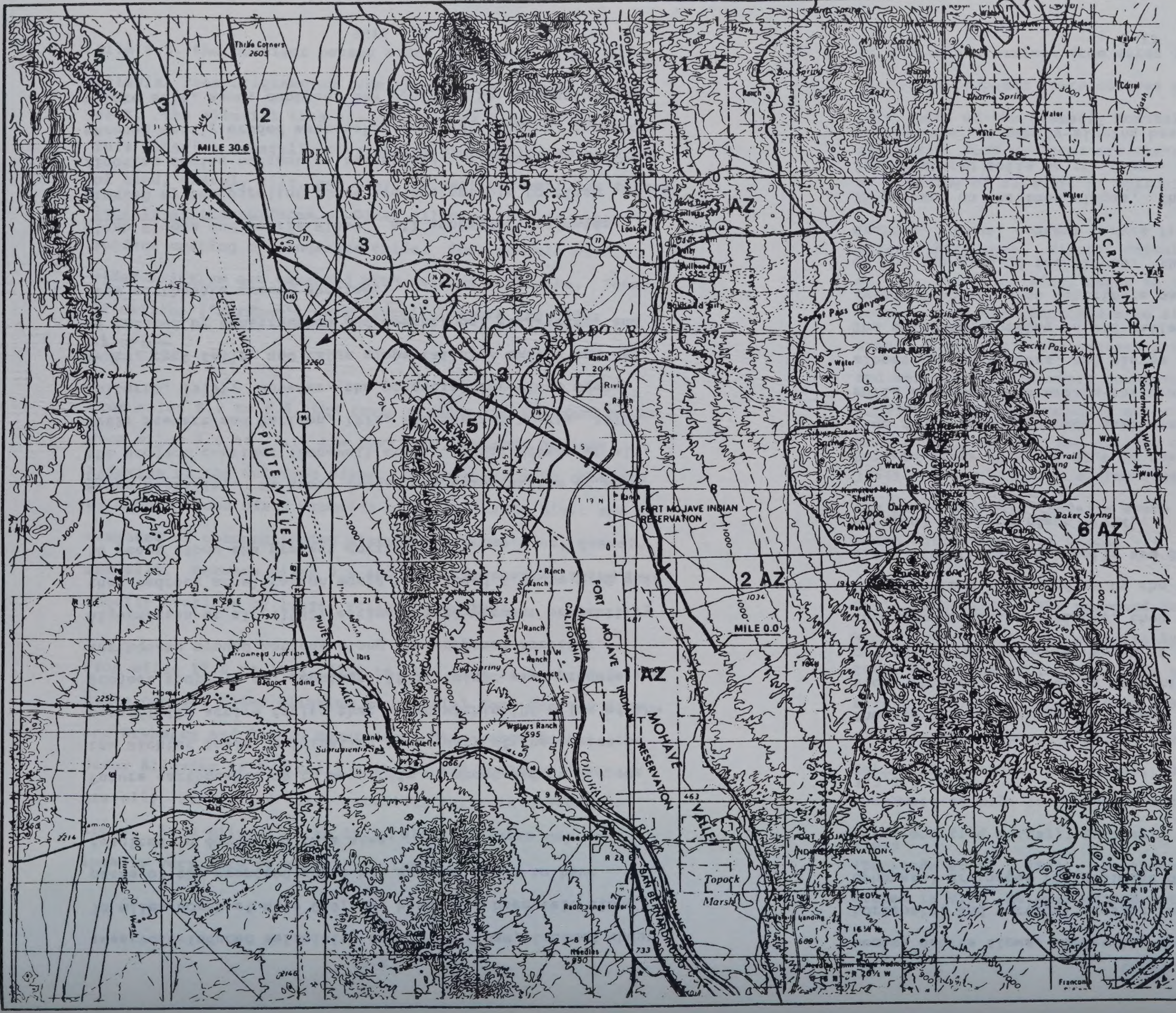
Flash Floods and Debris Flows. All ephemeral drainages crossed by the pipeline route are susceptible to flash flooding during torrential rainstorms. Floodwaters moving through easily eroded materials, such as alluvium, can accumulate silt, sand, cobbles, and boulders in suspension and

become debris flows. Generally speaking, debris flows cause horizontal and vertical erosion in the upper reaches of ephemeral drainages and sediment deposition in downslope areas.

3.2.3.3 Soil

The pipeline route passes through six major soil associations (Figure 3.2-4) as it essentially parallels the California-Nevada border south of Las Vegas, crosses the Colorado River into Arizona, then turns south. Nevada soils are described from studies by the Soil Conservation Service (1975, 1977). Arizona soils are described from studies by Richmond and Richardson (1974).

Between miles 30.6 and 22.6 in the Nevada segment, the pipeline route passes through soil association number 2. These soils are coarse to medium-textured and occur on lower foot slopes, valley floors, and playas in the Piute Valley area. The soils are forming in old valley-fill sediments. Eolian (wind) deposits also contribute parent sediment, primarily on the lee side of the playas. The soils are deep and well-drained. Gravel content ranges from none on the playas to 35 percent on the foot slopes. This association includes fine-textured soils on the playa, and Torripsamments on the nearly-level to gently-sloping basin floors. The coarse-


MILE 30.6
MILE 0.0
PK QK
PJ QJ
1 AZ
2 AZ
3 AZ
6 AZ
7 AZ
1
2
3
5
6
FORT MOJAVE INDIAN RESERVATION
FORT MOHAVE INDIAN RESERVATION
PIUTE VALLEY
MOHAVE VALLEY
BLACK MOUNTAINS
SACRAMENTO VALLEY
COLORADO R.
CALIFORNIA
ARIZONA
NEVADA
Needles
Topock Marsh
Three Corners
Crowbar Junction
Ibis
Homer
Bannock Siding
Sacramento Siding
Secret Pass Canyon
Oatman
Klinefelter
Francon
Radio range tower

LEGEND:

Proposed pipeline route with mileage tick (every 5 miles). Route and mileage based on information provided by WyCal.

NEVADA SOILS

1	Coarse and medium textured soils of the Colorado River flood plain
2	Coarse and medium textured soils of smooth alluvial plains
3	Very gravelly coarse and medium textured soils of dissected fans and foothills
4	Gravelly coarse and medium textured soils of stable fans and low foothills
5	Shallow soils and rock outcrops of mountains and hills
6	Shallow soils and rock outcrops on high mountains

REFERENCE: Colorado River Valley Reconnaissance Soil Survey, Soil Conservation Service, Las Vegas, Nevada, 1977, unpublished data.

ARIZONA SOILS

1AZ	Antho-Vint-Gilman Ass.: Deep soils on flood plains and lower alluvial fans
2AZ	Laveen-Caprizo-Antho Ass.: Deep soils on dissected terraces and alluvial fans
3AZ	Lomitas-Rock outcrops-Gochado Ass.: Shallow soils and granitic rock outcrops on low hills and mountains
6AZ	Care Ass.: Very shallow and shallow line hardpan soils on valley slopes and mesas
7AZ	Cellar-House Mountains-Rock outcrop Ass.: Very shallow and shallow soils and rock outcrops on hills and low mountains

REFERENCE: General Soils Map and Interpretations, Mohave County, Arizona, Soil Conservation Service, 1974.

NEVADA UTAH CALIFORNIA ARIZONA

N

0 5 10 MILES

SCALE

Figure 3.2-4
GENERAL SOILS MAP

WYCAL PIPELINE PROJECT
BOI26035.PO
AUGUST 1988

CH2M HILL

and medium-textured Calciorthids, Torriorthents, and Paleorthids occur on the lower parts of the piedmont slopes, smooth alluvial toeslopes, and footslope positions. Medium-textured Paleorgids occur on old, low-lying (drainage-bypass) alluvial fans. Excluding the playas, the surface textures are very coarse to coarse, with a 20 to 80 percent desert pavement. Runoff here is medium and the soils are moderately well-drained.

Between miles 22.6 and 21.1 and miles 19.1 and 11.0, the proposed pipeline passes through soil association number 3. This association consists of very gravelly coarse- and medium-textured soils on undulating to rolling dissected fans, ballenas (landforms consisting of round-topped ridge line remnants of fan alluvium), and gently- to strongly-sloping smooth fans. The soils were formed in alluvial sediments of limestone and mixed origin. This association includes very gravelly and medium-textured Calciorthids and Torriorthents in the drainageways and on steeper sideslopes. The gravelly Paleorthids and Paleorgids occur on the more stable portions of dissected fans. Stony phases of these soils occur on the higher reaches of the fans where they intersect the hills and mountains. The soils are somewhat excessively- to well-drained, and runoff is medium. The upper and middle subsoil has a minor shrink-swell potential.

Soil association number 5 is found between miles 21.1 and 19.1. This association consists of shallow soils containing rock outcrops found in dry desert mountains and foothills. These mountains are typically block-fault types formed from mixed rock origin. The most extensive soils of this association are very gravelly, medium-textured Torriorthents located on steep slopes. Other soils are gravelly, medium-textured Haplargids associated with granitic outcrops and gravelly, medium-textured Calciorthids and Paleorthids associated with limestone outcrops. Outcrops of basalt and sandstone may also be found in this association. The soils are somewhat excessively- to well-drained with medium runoff. These soils may be moderately alkaline. The shallow depth to bedrock and rockiness of the soil may be limiting factors affecting use of this soil.

Soil association number 1 is found in the flood plains created by the Colorado River in Nevada. This soil association extends between miles 11.0 and 9.0, and may also extend into the Arizona section of the Colorado River flood plain. The soils are dominantly deep and highly stratified and were formed in alluvium of mixed origin. The textures of the surface layer vary from sand to clay, but the dominant textures are moderately coarse, medium, and moderately fine. Although the soils are adequately to moderately well drained, some are poorly drained and saline. The poorly drained soils have high water tables and occur throughout the area but are more common near the river. Many of the soils have properties suitable for any use. However, areas of wet and saline-alkali soils, as well as soils with moderate to high shrink-swell potential and low bearing capacities are present and need to be considered during construction.

Two soil associations are found along the proposed pipeline route in Arizona. Between miles 8.9 and 7.4, the proposed route passes through the Antho-Vint-Gilman soil association number 1-AZ. This association occupies the flood plains and alluvial fans adjacent to the Colorado River south of Hoover Dam. Slopes are 0 to 2 percent on the flood plain and up to 5 percent on the alluvial fans. The soils are more than 60 inches deep and are forming in recent alluvium from mixed igneous and sedimentary rocks. Elevation ranges from 450 to 550 feet along the Colorado River flood plain, and from 600 to 2,600 feet on the alluvial fan east of the river.

Antho soils make up about 50 percent, Vint soils 30 percent, and Gilman soils 10 percent of the association. The remaining 10 percent consists of intermixed areas of the sandy Brios and Carrizo series and Riverwash, and the finer textured Glenbar and Imperial series. Small water and wetland areas are also included.

Antho soils have sandy loam surface layers 1 to 8 inches thick underlain to 60 inches or more by sandy loam, gravelly sandy loam, or fine sandy loam that may have thin strata ranging from silt loam to gravelly loam sand. They have slopes ranging from 0 to 5 percent and occur mainly north of Davis Dam. Vint soils have loamy sandy surface layers 6 to 16 inches thick over loamy fine sand underlying layers that may contain thin strata of silt loam, very fine sandy loam, or sandy loam. Slopes are 0 to 5 percent. They occur both on flood plains and fans. Gilman soils have loam surface layers and very fine sandy loam to light silt loam substrata to 60 inches or more. Slopes are 0 to 2 percent. They occur mainly on the flood plains of the larger drainageways and along the Colorado River. A few areas are saline. All soils in this association are subject to brief local flooding.

Other general soil characteristics of the 1-AZ association are moderate to moderately rapid permeability, low to moderate water-holding capacity, low shrink-swell potential, and high corrosivity potential for uncoated steel. WyCal's pipeline will be coated and cathodically protected.

The final major soil association (number 2-AZ) through which the proposed route passes extends between miles 7.4 and 0.0 (Figure 3.2-4). The Laveen-Carrizo-Antho association, number 2-AZ, consists of nearly level to moderately sloping soils on dissected high terraces and alluvial fans. Slopes are dominantly 0 to 8 percent, but include short slopes up to 50 percent. The soils are formed in both old and recent mixed alluvium. Elevations range from 500 to 2,000 feet.

Laveen soils make up about 40 percent of this association; Carrizo soils, 25 percent; and Antho soils, 25 percent. Cavelt, Rillito, Gilman, Vint, and Brios soils and Riverwash make up the remaining 10 percent.

Laveen soils have loam surface layers 10 to 15 inches thick over loam substrata that contains many soft to hard masses of lime down to 60 inches or more. Local areas are alkali (sodic) or saline-alkali. These soils occur on ridges of dissected terraces with dominant slopes of 0 to 5 percent but have some short side-slopes that range up to 50 percent. Carrizo soils have loamy fine sand surface layers up to 6 inches thick over stratified very gravelly coarse sand substrata that extends to a depth of 60 inches or more. These soils have slopes of 0 to 8 percent. Local areas are gravelly to very gravelly on the surface. The Antho soils have sandy loam or gravelly sandy loam surface layers and stratified sandy loam, fine sandy loam, or gravelly sandy loam substrata with thin layers of silt loam, loamy sand, or gravelly loamy sand to a depth of 60 inches or more. These soils have slopes of 0 to 5 percent. Carrizo and Antho soils are subject to brief flooding locally.

Other characteristics of number 2-AZ soils include moderate to rapid permeability, low to high water-holding capacity, low shrink-swell potential, and moderate to high corrosivity potential for uncoated steel.

3.2.3.4 Surface Water

The proposed pipeline route lies in a desert region with low annual precipitation. Annual rainfall is 5 to 6 inches in the lower elevations and about 10 inches in the higher elevations (Metzger and Loeltz, 1973). Most of the precipitation results from cyclonic storms during the winter months. However, violent local thunderstorms that occur in the summer months can result in over 3 inches of precipitation in a 24-hour period. The 10-year, 24-hour rainfall estimated for the area is 2 inches (U.S. Department of Commerce, 1961).

The proposed route traverses parts of the Piute and Mohave Valleys. Surface runoff in the Piute Valley in the vicinity of the route drains to the Piute Wash, which drains to the Colorado River downstream of the proposed crossing site. Surface runoff in the Mohave Valley drains towards the Colorado River. The proposed route crosses nine intermittent or dry streams (U.S. Geological Survey, 1954). These streams are either ephemeral arroyos (or washes) that flow only in response to precipitation or are intermittent streams fed by springs and precipitation. The intermittent streams generally extend only a short distance beyond their source due to infiltration of water into the coarse sands and gravels of the streambed.

The Colorado River is the only perennial stream the proposed pipeline route crosses. The proposed pipeline would cross the Colorado River near the northern boundary of the Fort Mojave Indian Reservation at approximately mile 9.0. The closest gauging station to this site is USGS Station 09423000, below Davis Dam. Colorado River flows below Davis Dam have been recorded from July 1905 to September 1907 and from March 1949 to the present. Flow has been regulated in this reach by Lake Mead since February 1, 1935, and by Lake Mohave since January 17, 1950. The maximum discharge for the period of 1949 to 1985 is 46,200 cubic feet per second (cfs) on July 2, 1983. The minimum discharge on record is 285 cfs on August 3, 1950.

Short-duration, high-intensity rainfalls that occur in the summer months can produce flash floods in the stream channels and adjacent areas. Flash floods can extend well into the valleys and beyond the area where the thunderstorm occurred.

3.2.3.5 Groundwater

Groundwater along the proposed pipeline route exists in both the hard rock of the mountains and the alluvium of the valleys. Groundwater in the valleys originates from direct infiltration of precipitation, recharge from runoff that occurs permanently at the bases of the mountains, and from infiltration from the Colorado River. The Colorado River, as it passes through the Mohave Valley, loses an average of 4,000 acre-feet per year per mile of river. Most of the groundwater recharge is consumed by phreatophytes or withdrawn for irrigation or other uses. Groundwater in the mountains originates from infiltration of rainfall and snowmelt.

Depth to groundwater in the valley areas is generally related to distance from the valley floor. Groundwater is near the surface in valley bottoms and at greater depths at valley margins. In the Mohave Valley, depth to groundwater is less than 200 feet (Brown, 1976).

Groundwater flow in basin and range valleys such as the Piute Valley is generally downward at mountain margins, near-horizontal beneath the alluvial fans, and upward in the valley bottoms. However, in the Mohave Valley where the Colorado River is recharging the groundwater, flow is away from the valley bottom toward the valley margins.

Groundwater quality depends upon the recharge source, the type of aquifer rock, and length of time the water is in the ground. Dissolved solids concentration provides a good indication of overall water quality. Groundwater in the mountains generally has dissolved solids concentrations of less than 1,000 milligrams per liter (mg/L). Groundwater in the Piute Valley and in most of the Mohave Valley also has concentrations less than 1,000 mg/L. The east side of the Mohave Valley has dissolved solids concentrations in the range of 1,000 to 3,000 mg/L, (Kister, 1973).

3.2.3.6 Freshwater Biology

The major drainage crossed by the proposed pipeline route is the Colorado River (Figure 3.2-2), about 4 miles downstream of Riviera, Arizona. The proposed crossing site is about 15 miles downstream of Davis Dam, which forms Lake Mohave, and about 55 miles upstream of Parker Dam, which forms Lake Havasu.

Fish species recently collected from the Colorado River between Davis Dam and Lake Havasu, together with their status and relative abundance, are listed in Table 3.2-17.

Table 3.2-17
FISH SPECIES OF THE COLORADO RIVER BETWEEN DAVIS DAM AND LAKE HAVASU

Species	Status	Abundance
Threadfin shad	NG	C
Colorado cutthroat	G	R
Rainbow trout	G	C
Brown trout	G	U
Goldfish	NG	U
Carp	NG	C
Roundtail chub	NG	R
Bonytail chub	NG/E	R
Golden shiner	NG	U
Red shiner	NG	U
Razorback sucker	NG/C	U
Black bullhead	G	U
Yellow bullhead	G	U
Channel catfish	G	C
Mosquitofish	NG	C
Striped bass	G	C
Green sunfish	G	C
Bluegill	G	C
Redear sunfish	G	C
Smallmouth bass	G	U
Largemouth bass	G	C
White crappie	G	U
Black crappie	G	C
Mottled sculpin	NG	U

G: game; NG: nongame; NG/E: nongame, federal endangered species; NG/C: nongame, candidate for federal listing; C: common; U: uncommon; R: rare

Sources: Marshall, 1976; Minckely, 1979; USFWS, 1980; BIO/WEST, 1986.

From FEIR/S (1987), Volume I, Page 3-24

Examples of commonly occurring game species present in this river reach include channel catfish, striped bass, bluegill, and largemouth bass. Commonly occurring nongame species include threadfin shad, carp, and mosquitofish. Species listed in Table 3.2-17 may also be present in the vicinity of the proposed crossing.

Two species collected in the Davis Dam to Lake Havasu reach that may be present near the proposed crossing are of special concern (Table 3.2-17). Bonytail chub, a federally listed endangered species, has been stocked in Lake Mohave (80,000 fingerlings in 1982). Razorback sucker, a candidate species for federal listing, has been collected from Colorado River backwater areas (FEIR/S, 1987).

Two other federally listed endangered fish species (woundfin, Colorado squawfish) historically occurred in this reach of the Colorado River. Today, the woundfin occurs only in the Virgin River upstream of Lake Mead. The Colorado squawfish no longer occurs in the lower Colorado River basin (FEIR/S, 1987).

No other perennial drainages are crossed by the proposed route. U.S. Geological Survey maps indicate the route crosses four intermittent drainages in Arizona and five intermittent drainages in Nevada. There are no aquatic resources in the intermittent drainages crossed in Nevada. One intermittent drainage that joins the Colorado River in Arizona near the proposed crossing could conceivably provide limited habitat for some of the river fishes during brief periods of flow. Aquatic habitat in other intermittent streams, as well as smaller ephemeral drainages, is limited by dry periods interspersed with brief periods of rapidly fluctuating flows. Flows can be associated with extreme water velocities and high sediment loads/turbidity levels that also limit habitat suitability.

3.2.3.7 Terrestrial Biology

3.2.3.7.1 Vegetation

The proposed pipeline route passes through three distinct plant communities: creosotebush, desert shrub, and desert wash/riparian. The creosotebush community is most abundant, occurring primarily in lower elevation valleys either along or in the vicinity of nearly 22 miles of the proposed route (nearly 13 miles in Nevada, 9 miles in Arizona (Table 3.2-18). An estimated 7 miles (primarily the northernmost miles) of the 9 miles in Arizona have been previously disturbed because of roads, an existing pipeline and right-of-way, and housing developments. Creosotebush (Larrea tridentata) is the dominant species in this community. Associated species may

Table 3.2-18
DISTRIBUTION OF PLANT COMMUNITIES
ALONG THE PROPOSED PIPELINE ROUTE IN NEVADA AND WYOMING[a]

Community Type	Milepost
Creosotebush	0 - 8.9[b] 11.3 - 15.7 21.3 - 23.4 23.9 - 24.2 24.7 - 30.6
Desert Shrub	9.0 - 11.3 15.7 - 21.3 23.4 - 23.9 24.2 - 24.7
Desert Wash/Riparian	Potentially near 0.8, 6.6, 7.8, 8.8, 8.9, 9.0, 18.8, 21.3, 21.6, 29.7, 30.6

---

[a] Mileposts 0 to 8.9 include Arizona; mileposts 9.0 to 30.6 include Nevada

[b] The northernmost 7 miles of this route segment have been disturbed

include white bursage (Ambrosia dumosa), white burrobrush (Hymenoclea salsola), big galleta (Hilaria rigida), and range ratany (Krameria parvifolia) (Bureau of Land Management, 1978). Banana yucca (Yucca baccata) was also observed in the creosotebush community during May 1988 overflights of the route.

The desert shrub community occurs at higher elevations along nearly 9 miles (Nevada segment only) of the proposed pipeline route (Table 3.2-18). Dominant species in the community may include blackbrush (Coleogyne ramosissima), Joshua tree (Yucca brevifolia), bursage, ephedra (Ephedra nevadensis), catclaw acacia (Acacia greggii), or other shrubs of generally lesser importance. Associated grasses include galleta grass and Indian ricegrass (Oryzopsis hymenoides).

The desert wash/riparian community possibly occurs at the few minor washes crossed by the route (Table 3.2-18). It also occurs along the Colorado River, although the river banks in the vicinity of the proposed crossing site are reported to be generally barren due to previous bank disturbance. Based on May 1988 aerial observations, the occurrence of the desert wash/riparian community along the proposed route appears to be extremely limited, but where it does occur it is valuable to wildlife. Common plant species in well-developed communities may include tamarisk (Tamarix gallica), desert willow (Chilopsis linearis), mesquite (Prosopis juliflora and P. pubescens), and catclaw acacia (Bureau of Land Management, 1982).

Conversations with Bureau of Land Management (BLM) staff indicated there were no federally listed threatened or endangered plant species along the proposed pipeline route. One federally listed candidate species (Penstemon bicolor spp. roseus, commonly known as beardtongue) that is also on the Nevada watch list may occur along the route. This species occurs west of Interstate 15 in Nevada. Its range may also extend east of the highway into the area of the proposed route in Nevada. In Arizona, beardtongue has been observed from Oatman west to the Colorado River (Figure 3.2-2). This area generally includes the northernmost portion of the Arizona route segment. This species is associated with sandy, gravelly washes.

3.2.3.7.2 Wildlife

A wide variety of wildlife species occurs in areas crossed by the proposed pipeline route. This discussion focuses on those species and habitat types that are limited in extent or are of special interest to the BLM, Nevada Department of Wildlife (NDOW), Arizona Department of Game and Fish (ADGF), or U.S. Fish and Wildlife Service (FSW).

Of the three plant community types that occur along the proposed route, the desert wash/riparian community is the most valuable to wildlife. This community appeared to be extremely limited in extent along the proposed route during May 1988 overflights.

The desert tortoise has been proposed for federal listing as a threatened species throughout its range. It is classified as rare by the State of Nevada, threatened by the State of Arizona, and sensitive by the BLM. Desert tortoise habitat includes creosotebush and blackbrush (desert shrub) plant communities that occur on flats, valleys, and bajadas (the base of alluvial fans) below about 4,500 feet elevation. Crucial desert tortoise areas (50 or more tortoises per square mile) in Nevada include portions of the Piute Valley (Bureau of Land Management, 1982). The proposed pipeline route crosses this crucial area between miles 25.5 and 30.6 (Figure 3.2-2). Based on desert tortoise preferred habitat types and terrain, this species may be distributed eastward along much of the proposed route toward the Colorado River.

The extent of desert tortoise distribution along the pipeline route in Arizona is unknown (Hall, 1988). The generally level terrain and occurrence of creosotebush in the vicinity of the Arizona route suggests the presence of potential desert tortoise habitat. However, roads and housing developments along much of the seven northernmost miles of the Arizona segment may limit potential desert tortoise use of this area.

The desert bighorn sheep is classified as a sensitive species by both the BLM and NDOW and as a threatened species by the ADGF (Bureau of Land Management, 1985). Desert bighorns inhabit the desert shrub vegetation type that occurs at higher elevations. A population of bighorns inhabits the New York Mountains, about 15 to 20 miles west of the Nevada route segment. These animals move between the New York Mountains and the McCullough Range directly to the north.

Bighorn sheep also occur in the central and eastern Newberry Mountains in Nevada. Their range extends north from Highway 77, which is north of the proposed pipeline route (Figure 3.2-2). The southern extent of year-round bighorn range in the Newberry Mountains is about 8 miles north of the proposed pipeline route. Crucial summer habitat for desert bighorns in these mountains occurs within an approximate 9-mile-long, 2-mile-wide band adjacent to the Colorado River. The southern extent of this crucial summer habitat is about 9 miles north of the proposed pipeline route (Bureau of Land Management, 1982). The location of summer range in the Newberry Mountains is consistent with findings

by Leslie (1977) who reported desert bighorn sheep distribution is severely limited by the availability of water during the summer. Most bighorns remain within about 2 miles of water during this time.

The Black Mountains in Arizona, which are located east of the proposed pipeline route (Figure 3.2-2), provide high-, medium-, and low-value habitat for desert bighorn sheep. The northernmost 8 miles of the Arizona pipeline segment are about 8 to 12 miles west of low-value bighorn habitat. The southernmost mile of the Arizona segment is about 10 miles west of medium-value desert bighorn habitat (Bureau of Land Management, 1978).

The gila monster is classified as rare by the State of Nevada and is a candidate species for federal listing. It inhabits the lower slopes of mountains, especially near washes and intermittent streams. The Bureau of Land Management (1982) identified the lower Colorado River drainage as key gila monster habitat.

The Yuma clapper rail is classified as a federally endangered species and a State of Arizona threatened species. Preferred habitat includes cattail and bulrush marshes and backwater areas. This species can be found from the Mexican border north to Topock Marsh (Bureau of Land Management, 1985). This marsh is about 5 miles south of mile 0.0 on the proposed Arizona segment and about 15 miles south of the proposed Colorado River crossing site.

The Colorado River historically provided habitat for two federally endangered species, bald eagles and peregrine falcons. There has been no known breeding of bald eagles along the river in recent years. Winter sightings of eagles may represent wintering migrants from the far north. There have been reports of wintering peregrine falcons in the past (no recent confirmed observations) and occasional sightings of an individual during the breeding season. However, no recent nesting sites are known (Bureau of Land Management, 1985). Neither of these species was mentioned in recent conversations with state and federal biologists as occurring in the vicinity of the proposed pipeline route.

Other wildlife species present in the general area include mule deer, kit fox, bobcats, and coyotes. Mule deer occur in the Black Mountains in Arizona (Bureau of Land Management, 1978); on both sides of the Colorado River within the BLM Yuma District, which extends from just north of Bullhead City to Mexico (Bureau of Land Management, 1985); and in the New York Mountains west of the Nevada segment. Mule deer may also be present in the Newberry Mountains north of the Nevada segment. Kit fox and bobcats probably occur in these same mountain ranges. Coyotes occur throughout the area.

Gambel's quail may occur along parts of the proposed pipeline route. Quail are completely dependent on water availability during the summer, rarely ranging more than 1.5 miles from water sources (Bureau of Land Management, 1982). The BLM reported that Gambel's quail is the primary game species in southern Nevada. In the BLM Yuma District, Gambel's quail are concentrated in riparian areas along major rivers and near water sources on the desert (Bureau of Land Management, 1985).

3.2.3.7.3 Grazing

All rangeland in the 49 BLM grazing allotments in Clark County, Nevada, is classified as ephemeral. Under a special grazing rule promulgated by the BLM on December 7, 1968, and applied to all of Clark County, ephemeral range is characterized as generally located below 3,200 feet elevation; having annual precipitation of less than 5 inches; having a minor percentage of the total plant composition made up of desirable perennial forage plants; usually having a history of sporadic grazing use coinciding with seasons of favorable annual forage production; having limited potential for development by vegetation manipulation; and lacking potential to improve condition or to produce a dependable forage supply through intensive management (Bureau of Land Management, 1982).

Under current ephemeral grazing rules, range inspection prior to licensing is not required. Grazing can be authorized when forage is present, or when climatic conditions indicate a likelihood of forage being present in the future (Jamrog, 1988).

The pipeline route traverses three BLM grazing allotments in Nevada. The Crescent Peak allotment consists of 119,320 acres and has an average cattle grazing allotment of 5,244 animal unit months (AUMs) year-long. The Newberry Mountains allotment contains 70,384 acres but is not grazed. The 22,998-acre South Point allotment supports 216 AUMs year-long (Bureau of Land Management, 1982).

In crossing these grazing allotments, the proposed pipeline may encounter various rangeland improvements. BLM master title plats indicate that only one fence, paralleling U.S. Highway 95 near the Nevada/California state line, will be crossed. However, other rangeland improvements, such as springs, guzzlers (small corrugated sheet metal impoundments that collect spring water), pipelines, and corrals, may be located along the proposed route.

Federal lands in Arizona that would be crossed by the proposed pipeline are not part of a grazing allotment. No grazing takes place on these lands (Bureau of Land Management, 1978 and 1985).

Most private land in Arizona that would be crossed by the proposed pipeline is or will be developed for housing. Numerous roads and subdivisions have already been constructed. Grazing on these lands, if any, is minimal.

3.2.3.8 Socioeconomics

3.2.3.8.1 Population, Housing, and Economic Characteristics

The proposed project lies entirely within Clark County, Nevada, and Mohave County, Arizona (Figure 3.2-2). The community of Needles, California (1980 population: 4,120), approximately 10 miles southwest of proposed route mile 0.0 in Arizona, would be the only populated area outside of these counties in proximity to the pipeline. Since communities in Nevada and Arizona will be more accessible to the project and offer the goods and services required by the workforce, Needles is not expected to be affected by the project.

Clark County, Nevada, has a total area of 7,881 square miles. Its 1984 population was 536,500, up 15.8 percent from 463,087 in the 1980 Census of Population. This represents a relatively low population density of 68 persons per square mile, reflecting the county's large size. Las Vegas, the largest city in the county and located about 70 miles north of milepost 30.6 on the Nevada segment, had a 1984 population of 229,466, or 43 percent of the Clark County total. The population density for Las Vegas exceeds 6,000 persons per square mile. The population density in the rural areas of Clark County, such as the proposed project area, is extremely low. Population in Clark County is expected to reach 664,000 by 1990 and about 891,000 by the year 2000.

Clark County has 189,860 housing units. Vacancy rates average 8.4 percent. The number of temporary accommodations in the county (53,600) is much greater than any other county in the region, since Las Vegas is a popular tourist area.

The county's economy is based almost entirely on Las Vegas and, therefore, is very service oriented (it accounted for 52.96 percent of the 259,723 employees in 1984). Per capita personal income was $12,052 in 1983, and total personal income was $6.27 billion, of which $4.25 billion was wages and salaries. Unemployment in the county averaged 8.6 percent in 1984.

Several other sources of county income have grown dramatically in recent years. The economic importance of the outdoor recreation and motion picture industries has become significant. It is not known exactly how much each of these activities contributes to the county's economy, but several

events are sizeable sources of revenue. Total Special Recreation Permit fees collected by the BLM for these and similar activities in the Stateline Resource Management Area in fiscal year 1985 were $15,442.

Two locations northwest of the proposed project area are frequently used for the filming of full-length motion pictures and television commercials. These are the areas on either side of Interstate Highway I-15 and State Highway 164. Two motion pictures filmed in these areas illustrate the potential economic benefit to the county. "Megaforce" and "Cherry 2000" contributed $22 million and $10 million, respectively, to the Clark County economy.

Public services exist in substantial supply in the county as a result of the tax base created by Las Vegas. No service shortages are anticipated.

The closest area of concentrated population in Nevada to the proposed pipeline route is the unincorporated community of Laughlin, Nevada. Laughlin is located adjacent to the Colorado River about 10 miles north of the proposed route. With a population of only about 100 in 1980, the community has grown as a result of gaming and other recreation to about 3,050 in 1987. A population of 15,000 by the year 2000 has been projected for the area as a result of continued gaming growth. While the casinos that form the economic base of the community are scattered along the Colorado River, the majority of the labor force resides across the river in Bullhead City, Arizona. Laughlin has about 1,600 permanent dwelling units and 4,400 resort rooms. In 1987, the Laughlin area had an assessed valuation of about $106 million and generated about 9 percent ($235 million) of Clark County's gaming revenues.

Mohave County, Arizona, has a total area of 13,285 square miles (FEIR/S, 1987). The 1980 population of 55,865 increased to 79,300 in 1987. The only incorporated community in proximity to the proposed pipeline is Bullhead City, which is also the largest community in Mohave County. The city comprises 43 square miles and had a 1987 population of 20,315, increasing from 10,363 in 1980, an average annual increase of nearly 14 percent. The projected population for 1995 is 30,510 persons. The median age of the population in Bullhead City in 1985 was 42.9 years, compared to 34.5 years in the county and 30.8 years in Arizona.

Bullhead City was established in 1945 as a construction camp for Davis Dam. It has grown as a result of recreational development associated with gaming establishments along the Nevada side of the Colorado River, water recreation on the river, the movement of retired persons to the area, and major utilities. The Mojave Generating Station, a coal-fired power cooperative of four major utilities, is located

on the Nevada side of the river across from Bullhead City. Davis Dam, just north of the city, also includes a major hydroelectric facility.

In 1985, Bullhead City had 11,415 year-round dwelling units, about 20 percent of which were vacant units held for seasonal use. Not including these seasonally-held units, the city had a vacancy rate of 14.7 percent, a very high rate at that time. Additionally, about 940 motel/hotel rooms are available in the Bullhead City area, with an occupancy rate of 74 percent and an average cost of $39 per night. The 1985 per capita and median household incomes for the city were $9,846 and $17,485, substantially less than the state's $10,561 and $24,670, respectively. Mohave County's per capita income of $9,041 was lower than the city's, but the county's $19,185 median household income was higher than the city's because of larger household size. The county's average household size was 2.51 persons compared to 2.28 persons per houshold in the city.

Table 3.2-19 shows the distribution of employment by industry for Bullhead City and Mohave County residents. While both distributions have similar major employment sectors (retail trade and services), there are some significant differences. These include substantially greater manufacturing employment in the county than city, and noticeably greater employment in transportation, communications, and public utilities (TCPU) in the city than county. As would be expected, the city has considerably greater service employment than the county, although county employment in this sector is unsually high because of high city employment.

Table 3.2-19
PERCENTAGE EMPLOYMENT DISTRIBUTION BY INDUSTRY
FOR BULLHEAD CITY AND MOHAVE COUNTY, ARIZONA, RESIDENTS

Industry	Mohave County	Bullhead City
Agriculture	1.4	0.3
Mining	3.2	0.9
Construction	11.6	13.8
Manufacturing	14.6	5.5
TCPU[a]	8.1	12.0
Wholesale/Retail Trade	20.9	21.9
Fire[b]	5.6	5.5
Services	28.2	38.6
Public Administration	6.4	1.4

---

[a] Transportation, communications, public utilities

[b] Finance, insurance, real estate

In 1980, an estimated 21 to 31 percent of Bullhead City residents worked in the Laughlin area. With the rapid growth of recreation services in Laughlin, that percentage is currently estimated to exceed 31 percent. Unemployment rates in June 1988 were 6.1 percent in Mohave County and 6.5 percent in Bullhead City.

Mohave County is expected to continue to grow, but at a slower rate than in the last several years. By the year 2000, the population is estimated to be 108,400, an increase of 36 percent or an average of just under 3 percent annually.

3.2.3.8.2 Traffic

Numerous transportation corridors and transmission facilities exist in the project area. These include highways, roads, power lines, telecommunication lines, and other pipelines. The information provided below is based on a review of BLM master title plats from the Las Vegas and Phoenix BLM offices.

The pipeline would cross two highways and one improved road, all of which would provide access to the proposed route for construction and maintenance equipment and crews. These include U.S. Highway 95 in Nevada, Arizona State Highway 95, and the improved road between Laughlin, Nevada, and Needles, California. The pipeline would also cross at least 10 unimproved roads and jeep trails.

At least four power transmission lines and one telecommunication transmission line would be intersected by the proposed pipeline. In addition, the proposed pipeline passes in the vicinity of a portion of each of six major existing pipelines as follows:

Proprietor	State
Southwest Gas Corporation (3)	Nevada and Arizona
El Paso Natural Gas Company	Arizona
Four Corners Pipeline Company	Arizona
Transwestern Pipeline Company	Arizona

No attempt was made to inventory intersecting transmission and transportation facilities on the approximately 6.5 miles of private land in Arizona that the pipeline would cross. This area contains at least one highway (Arizona State Highway 95) and numerous other roads. Due to the large number of planned and existing subdivisions, it is anticipated that the proposed pipeline would encounter many utility rights-of-way and connections, including electric power, natural gas, water, sewer, irrigation canals, and telecommunications.

3.2.3.8.3 Noise

The proposed pipeline route passes through Clark County, Nevada, and Mohave County, Arizona. The only noise surveys known to have been conducted within Clark County involve noise generated by McCarran International Airport and Nellis Air Force Base. These airports are adjacent to the populated area of the Las Vegas Valley. According to the McCarran Airport Master Plan, the McCarran Airport Noise Control and Land Use Compatibility (ANCLUC) study, and the Nellis Air Force Base Air Installation Compatibility Use

Zone (AICUZ) study, approximately 62 square miles of land are impacted by airport noise above 65 Day-Night Sound Level (Ldn). This area is located entirely within the Las Vegas Valley and does not affect the proposed project area. No residences or other sensitive noise receptors are located within the proposed project area in Nevada. The City of Riviera, Arizona, is about 2 miles north of the Nevada segment of the proposed route.

In Mohave County, Arizona, much of the northernmost 7 miles of the route would pass through areas of planned or partially developed subdivisions. The pipeline would also parallel portions of the Mojave Indian Reservation, where a number of houses are located within about one-half mile of the proposed route. These residences represent potential sensitive noise receptors within the Mohave County segment of the pipeline route.

Reasonable estimates of the general relationship between population density and average Ldn values have been presented (FEIR/S, 1987) and can be applied to the Clark County and Mohave County segments of the pipeline route. The 65 Ldn value cited above for the Clark County airport studies is related to the most noisy urban environments. Undeveloped rural areas, such as the proposed project area in Clark County, generally have an average Ldn of 35. Those portions of the project area adjacent to highways experience higher noise levels. It is also likely that some remote portions of the project area occasionally exceed 35 Ldn for short periods of time because of the operation of off-road vehicles or blasting for mineral exploration. In Mohave County, average Ldn levels probably range from about 35 to 45, reflecting noise levels in undeveloped rural areas (35 Ldn), partially developed rural areas (40 Ldn), and quiet suburban areas (45 Ldn).

3.2.3.8.4 Recreational Resources

Recreational use of BLM lands near the proposed pipeline has increased dramatically in the last several years because of the rapid population increase in the Laughlin, Nevada/Bullhead City, Arizona, area. The major recreational uses within the project area include off-road vehicle use, hunting, hiking, horseback riding, fishing, boating, waterskiing, sightseeing, rockhounding, and other diverse interests (Bruno, 1988).

Off-road vehicle use accounts for the vast majority of recreation in the area. In fiscal year 1985, the Stateline Resource Management Area (WyCal's entire proposed pipeline route in Nevada is within this management area, which is part of the BLM, Las Vegas District) processed 71 Special

Recreation Permits (SRPs). Twenty-six of those were for competitive off-road events. The 71 permits drew a total of 4,024 participants and 129,920 spectators (Bureau of Land Management, undated).

The BLM, Las Vegas District, designates the land it manages according to the type and amount of off-road vehicle use it permits (see Appendix D). The proposed pipeline would cross three such off-road vehicle designations in Clark County, Nevada. At milepost 30.6, the pipeline route would be located in an area designated as L4A. A short distance southeast of this point, the pipeline would pass through approximately 4.3 miles of land designated as L8D. The remaining portion of the proposed route that is on BLM land in Nevada is designated L4B. All three of these designations limit certain types of group and competitive off-road vehicle use (see Appendix D). These limitations do not apply to individuals.

BLM recreation personnel estimate that the Stateline Resource Management Area is used by several hundred thousand off-road vehicles yearly. The Laughlin 300, a national off-road vehicle race, was formerly held in the area designated L4B. This event is no longer held. However, numerous off-road vehicle club events are held in this area. The Mojave and

Fort Mojave historic roads, which pass through the area designated as L4B, are also used by off-road vehicle clubs (Bruno, 1988).

The lower Colorado River provides many water-based recreation opportunities, primarily fishing, swimming, boating, and waterskiing. Activity is concentrated around the population centers along the river, such as Bullhead City north of the proposed pipeline crossing (Figure 3.2-2). The lower Colorado River is a highly valued recreation resource for people in southwestern Nevada, western Arizona, and southern California. An estimated 17 million people can conveniently reach the river within a half day (Bureau of Land Management, 1980).

Portions of the Colorado River are federally classified as Wild and Scenic by the National Park Service. The proposed pipeline crossing site would not involve any Wild and Scenic segments. The nearest such segment extends from Lake Havasu to Topock, over 25 miles downstream of the proposed river crossing. The nearest upstream Wild and Scenic designation is Lake Mead, over 70 miles from the proposed crossing.

Section 10, T 19 N, R 22 W, is federally-owned land that is managed jointly by the BLM (Yuma District), the Arizona Game

and Fish Commission, and Bullhead City under the terms of a Cooperative Management Agreement (CMA). CMA objectives that involve recreational use of the site are listed below:

- Ensure legal public access to Section 10, and provide approximately 1 mile of improved access across public land.
- Protect approximately 100 acres of upland terrace from indiscriminate off-road vehicle use, which will also prevent further degradation of wildlife and cultural resource values.
- Provide additional nonmotorized recreation and educational opportunity for the public by developing a viewing/interpretive area.

This site along the Colorado River currently contains fences, access gates, roads, parking areas, foot paths, and equestrian trails. Recreational use includes hiking, sightseeing, fishing, swimming, picnicking, boating, waterskiing, bicycling, and jogging.

The southern end of the proposed pipeline segment (mile 0.0) would be located within the BLM Kingman Resource Area, Black

Mountain Planning Unit 02-02. An estimate of recreational use for the Black Mountain Planning Unit was made in 1975 by the BLM (1978). These data are shown in Table 3.2-20.

Table 3.2-20
RECREATIONAL ACTIVITIES AND VISITOR-DAYS
FOR THE BLM BLACK MOUNTAIN PLANNING UNIT

Recreational Activity	Total Visitor-Days Per Year
Hunting	2,434
Sightseeing	1,666
Rockhounding	378
Off-Road Vehicle Use	223
Other	679
Total	5,380

Other recreational activities in the area include camping, fishing, hunting, and trapping on the nearby Fort Mojave Indian Reservation. All of these activities require tribal permits, which are available for a fee (Algots, 1988). No use figures were available for these activities.

3.2.3.8.5 Mining

Four mining claims currently exist on federal lands the pipeline would traverse. Of the 30.6 miles of proposed pipeline, these mining claims constitute 2.2 miles or 7 percent of its length. All of these claims occur on BLM land in Nevada. Various mineral exploration activities take place on these claims.

A total of 6.4 miles of pipeline would pass through BLM land on which the mineral rights have been withdrawn. In addition, the federal government has reserved the mineral rights on the private land in Nevada near U.S. Highway 95 through which 0.4 miles of the proposed pipeline would pass. No mining claims may be made on these lands.

3.2.3.9 Land Ownership/Use

Land ownership along the proposed 30.6-mile pipeline route is shown in Figure 3.2-5. Approximately 21.5 miles of the pipeline would be located in Nevada, with the remainder located in Arizona. With one exception, the entire Nevada segment of the pipeline would be located on federal land managed by the BLM. This exception is approximately 104 acres of privately-owned land adjacent to the Nevada/California state line and U.S. Highway 95. This land is undeveloped and mineral rights have been reserved by the federal government.

The proposed route passes just north of the Fort Mojave Indian Reservation in Nevada. For approximately 5 miles,

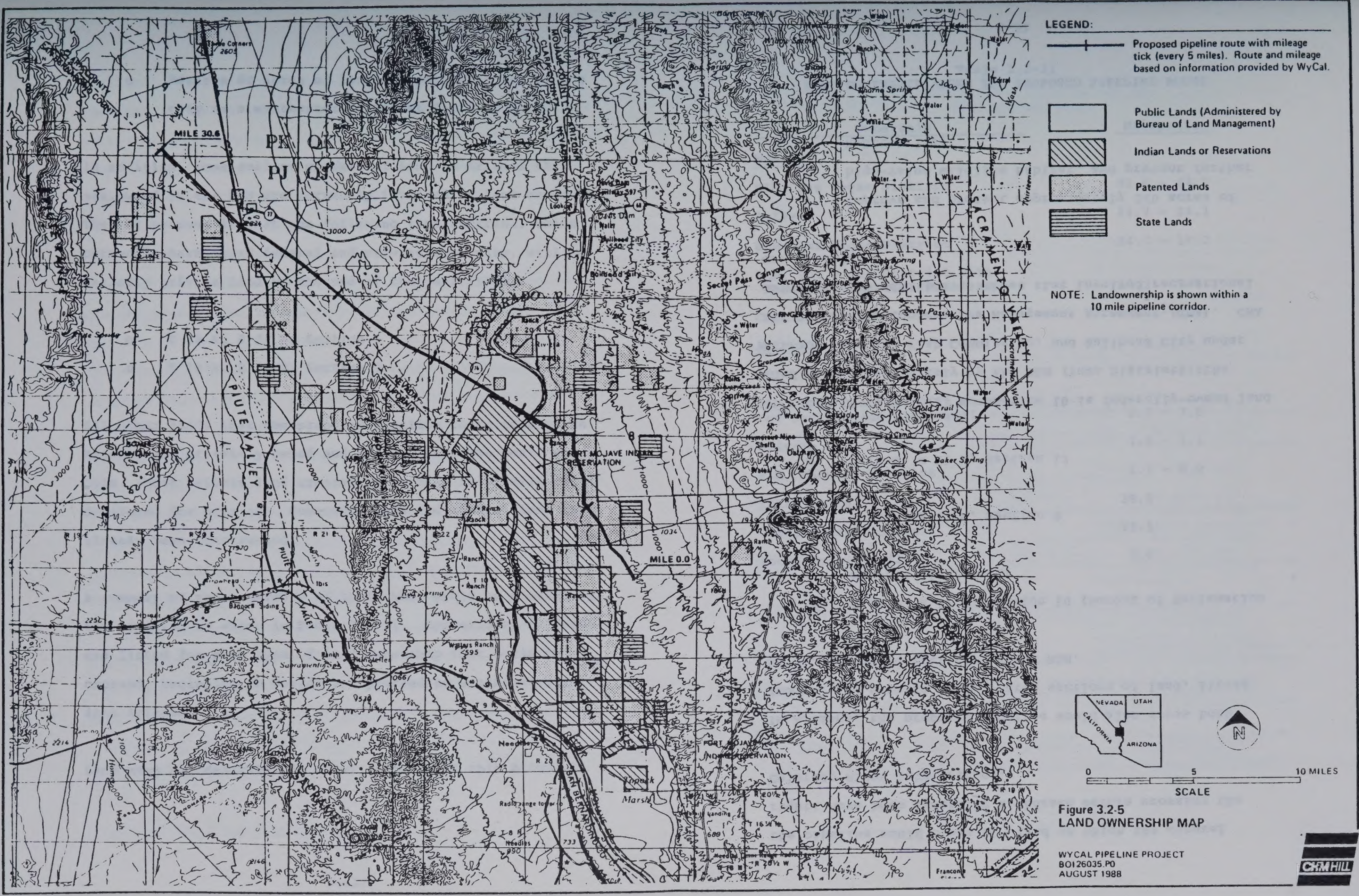

LEGEND:
Proposed pipeline route with mileage tick (every 5 miles). Route and mileage based on information provided by WyCal.
Public Lands (Administered by Bureau of Land Management)
Indian Lands or Reservations
Patented Lands
State Lands
NOTE: Landownership is shown within a 10 mile pipeline corridor.
MILE 30.6
MILE 0.0
PK
QK
PJ
QJ
COLORADO R.
FORT MOJAVE INDIAN RESERVATION
FORT MOJAVE INDIAN RESERVATION
PIUTE VALLEY
BLACK MOUNTAINS
SACRAMENTO VALLEY
CLARK COUNTY
SAN BERNARDINO COUNTY
MOHAVE COUNTY
NEVADA
CALIFORNIA
ARIZONA
Davis Dam
Bullhead City
Secret Pass Canyon
Oatman
Needles
Topock Marsh
Franconia
NEVADA
UTAH
CALIFORNIA
ARIZONA
N
0
5
10 MILES
SCALE

Figure 3.2-5
LAND OWNERSHIP MAP

WYCAL PIPELINE PROJECT
BO126035.P0
AUGUST 1988

CH2M HILL

the pipeline would cross BLM land on which the mineral rights have been federally withdrawn before crossing the Colorado River into Arizona.

In Arizona, the proposed pipeline would also cross both federal and private land. Three sections of land, listed below, are owned entirely by the BLM.

- T 19 N, R 22 W, Section 10 (Bureau of Reclamation Mineral Withdrawal)
- T 18 N, R 21 W, Section 8
- T 18 N, R 21 W, Section 17

Of these, T 19 N, R 22 W, Section 10 is federally-owned land that is managed jointly by the BLM (Yuma District), the Arizona Game and Fish Commission, and Bullhead City under the terms of a Cooperative Management Agreement (CMA). CMA objectives in addition to those that involved recreational use include:

- Improve and protect approximately 360 acres of high-value wildlife habitat, and prevent further habitat loss.

- Reserve 60 acres of land for potential use by the city as a wastewater treatment facility site.

In addition, some smaller parcels of land in Arizona that are owned by the BLM are currently involved in land exchanges. The net outcome is that the following land sections, which currently have mixed federal and private ownership, will be entirely private land by the end of the year (1988).

- T 18 N, R 21 W, Section 6
- T 18 N, R 21 W, Section 7

All other lands that the proposed pipeline route crosses in Arizona are privately owned and include numerous small parcels. Most private land crossed in Arizona is or will be developed for housing. Numerous roads and subdivisions have already been constructed.

A summary of the ownership of lands that would be crossed by the pipeline is shown in Table 3.2-21. Approximate mileages are listed for each type of land ownership that would be crossed, beginning in Nevada and proceeding southeasterly into Arizona.

Land uses are described in other sections of this document.

Table 3.2-21
LAND OWNERSHIP ALONG THE PROPOSED PIPELINE ROUTE

Ownership	Mileposts
Nevada	
BLM, Las Vegas District	30.6 - 24.7
Private	24.7 - 24.3
BLM, Las Vegas District	24.3 - 14.2
BLM, Las Vegas District with Federal Protective Withdrawal	14.2 - 9.0
Colorado River	9.0 - 8.9
Arizona	
Private	8.9 - 8.8
BLM, Yuma District with Bureau of Reclamation Withdrawal	8.8 - 7.6
Private	7.6 - 1.1
BLM, Phoenix District	1.1 - 0.0
Total Miles	30.6
Total Federal Miles	23.5
Total Private Miles	7.0

3.2.3.10 Cultural Resources

3.2.3.10.1 Archaeology

For portions of the corridor located in Nevada, archaeological and historical records and reports were reviewed at the Environmental Research Center at the University of Nevada-Las Vegas and at the Las Vegas District of the BLM. Information for the project corridor in Arizona was obtained from the Kingman, Yuma, and Lake Havasu Districts of the BLM, and from the Arizona State Historic Preservation Office. Archaeological and historical information on that segment of the pipeline which passes close to California was acquired from the California Archaeological Inventory-Archaeological Information Center, San Bernadino County Museum. Information concerning contemporary Indian religious or ceremonial use of the project area was received from the Tribal Office of the Fort Mojave Indian Reservation. The area examined during the literature review extended 1/2-mile on either side of the proposed project centerline. Cultural resources consultations are summarized in Table 3.2-22.

In Nevada, several large-scale BLM cultural resource studies have been conducted in the project area near the Colorado River. The BLM has also conducted cultural resource investigations along the routes of several ORV race courses.

Table 3.2-22
CULTURAL RESOURCES CONSULTATIONS

Name/Title	Date of Contact	Type of Contact	Agency or Organization	Purpose of Consultation
Patricia Osmond State Service Intern	08/08/88	Letter	Arizona State Historic Preservation Office	Presence of Cultural Resources in the Project Area
Lester Ross Center Coordinator	08/08/88	Letter	Archaeological Information Center--San Bernadino County Museum, California	Presence of Cultural Resources in the Project Area
Nora Garcia Tribal Spokesperson	08/10/88	Letter	Fort Mojave Tribal Office	Areas of Religious or Cultural Concern within the Corridor
James Green Archaeologist	08/10/88	Phone	Bureau of Land Management, Yuma District Office--Havasu Resource Area, Arizona	Presence of Cultural Resources in the Project Area
Don Simonis Archaeologist	08/10/88	Phone	Bureau of Land Management, Phoenix District Office--Kingman Resource Area, Arizona	Presence of Cultural Resources in the Project Area
Linda Blair Archaeologist	08/15/88	Personal Contact	Environmental Research Center--Division of Anthropological Studies University of Nevada-Las Vegas	Presence of Cultural Resources in the Project Area
Keith Myhrer Archaeologist	08/16/88	Personal Contact	Bureau of Land Management--Las Vegas District, Nevada	Presence of Cultural Resources in the Project Area
Michael Ford	8/18/88	Letter	Bureau of Land Management--Yuma District Office--Havasu Resource Area, Arizona	Presence of Cultural Resources in the Project Area
Boma Johnson Archaeologist	08/19/88	Phone	Bureau of Land Management--Yuma District Office, Arizona	Presence of Cultural Resources in the Project Area

Archaeological surveys have also been undertaken by the Nevada State Highway Department and the Nevada Department of Transportation on roadway projects. In Arizona, the BLM has undertaken surveys of selected tracts and several pipeline surveys have been conducted. Additional surveys are planned in the immediate future for portions of the project area included in a proposed land exchange. Along the California segment of the project corridor, no surveys have been conducted and no sites are previously recorded.

No sites listed on the National Register of Historic Places are located within the proposed corridor. However, two Arizona sites within the corridor are eligible for inclusion on the Register. A Class III cultural resource survey of the project corridor, in compliance with 36 CFR 800, will be required prior to project development.

Thirteen prehistoric sites are located within the project ROW (Table 3.2-23). Nine are located on terraces northwest of the Colorado River in Nevada. These sites include five lithic quarry workshops, three lithic scatters, and a site containing rock circles and lithics. The latter site also contains an historic component. Four prehistoric sites are situated on bluffs southeast of the river in Arizona. These sites include two lithic scatters, a rock ring, and a

Table 3.2-23
CULTURAL RESOURCES ALONG THE PROPOSED
WYCAL PIPELINE ROUTE

Site Number or BLM Site Number	Site Type	Comments/Artifacts Found Onsite
NEVADA		
26CK1412-P*	Rock Circles/ Lithic Scatter	Three rock rings, one circular area, and a scatter of historic refuse.
26CK1414-P	Lithic Quarry Workshop	Cores, flakes, and worked cobbles.
26CK1415-P	Lithic Scatter	Several flaking stations. One area contains a rock alignment that may be recent.
26CK1418-P	Lithic Quarry Workshop	Hammerstones, cores, cobble unifaces, and lithic debris.
26CK1419-P	Lithic Quarry Workshop	Cores, choppers, and flakes.
26CK1423-P	Lithic Quarry Workshop	Cores, choppers, broken cobbles, large percussion flakes, and wasteflakes.
26CK1425-P	Lithic Quarry Workshop	Hammerstones, cores, and wasteflakes.
26CK1428-P	Lithic Scatter	Uniface and biface choppers and hammerstones. Recommended for further study.
26CK1429-P	Lithic Scatter	Hammerstones, cores, and uniface and biface choppers.
(418) Isolate-P	Lithic Scatter	A flaked cobble and four large flakes. These artifacts were collected.

Table 3.2-23 (continued)
CULTURAL RESOURCES ALONG THE PROPOSED
WYCAL PIPELINE ROUTE

Site Number or BLM Site Number	Site Type	Comments/Artifacts Found Onsite
(425) Isolate-P	Ceramic	Two potsherds of grey plainware. These artifacts were collected. Located within WYCAL corridor on BLM map. Legal description on BLM isolate form, survey report, and BLM map are inconsistent.
(426) Isolate-P	Ceramic/Lithic	One ceramic sherd and one core. These artifacts were collected.
(427) Isolate-P	Ceramics/Lithic	Fourteen ceramic sherds and one flake. These artifacts were collected.
(431) Unknown	Unknown	Located within WYCAL corridor on BLM map. Probably a collected isolate. No other information available.
ARIZONA		
No site number-H**	Fort Mojave	The only permanent fort in Mohave County. Established in 1858, abandoned in 1861, reestablished in 1863, and operational until 1890 when it became a school for Indian children. School closed in 1934 and all fort structures were dismantled in 1942. Concrete walks, an irrigation ditch, and foundations remain at the site.

Table 3.2-23 (continued)
CULTURAL RESOURCES ALONG THE PROPOSED
WYCAL PIPELINE ROUTE

Site Number or BLM Site Number	Site Type	Comments/Artifacts Found Onsite
No site number-H	Mojave City	Selected by the Territorial Legislature as the first county seat in 1864. Catered to the needs of soldiers stationed at Fort Mojave. Expansion of the Fort boundaries in 1869 resulted in its demise. Cellars, porcelain dishes, and cans remain at the site.
No site number-PH***	Mojave Trail	A prehistoric and historic trail.
No site number-PH	Beales Wagon Road	A wagon road, portions of which have been nominated to the National Register. Those nominated portions are outside the proposed corridor (Green, 1988)
AZ-050-1040-P	Lithic Scatter	No additional information available.
AZ-050-1041-P	Adobe and Possible Burial	Native American contact adobe with midden, possible burial, intaglio, and associated lithics and ceramics. Eligible for inclusion in the National Register (Ford, 1988).
AZ-050-1042-H	Refuse	Historic can and bottle dump that may be associated with the Fort Mojave Indian School. Eligible for inclusion in the National Register (Ford, 1988).

Table 3.2-23 (continued)
CULTURAL RESOURCES ALONG THE PROPOSED WYCAL PIPELINE ROUTE

Site Number or BLM Site Number	Site Type	Comments/Artifacts Found Onsite
AZ-050-0128-P	Lithic Scatter	Lithic scatter with broken tools.
(87)-P	Rock Ring	Only referred to in survey report. Has probably been obliterated by development (Johnson, 1988).

---

* Prehistoric Site/Isolate (P)
** Historic Site (H)
*** Prehistoric Sites with Historic Components (PH)

contact-period adobe with an associated midden, intaglio, and possible burial. The latter site has been determined to be eligible for inclusion on the National Register. None of the other prehistoric sites have been evaluated to determine their status for listing on the Register.

Three historic sites are located within the corridor and all occupy the bluff southeast of the Colorado River in Arizona (Table 3.2-23). The sites include Fort Mojave, established in 1858; Mojave City, the first county seat; and an historic refuse site believed to be associated with the Fort Mojave Indian School. The refuse site is eligible for inclusion on the National Register. None of the other historic sites have been evaluated to determine their eligibility status. The historic sites embody important aspects of this region's development. Among these are military control of the frontier, early settlement of the frontier, and education of subjugated native peoples.

Other historic resources included in the project corridor are historic roads and trails. The Mojave Trail was a prehistoric trade route that became the the major wagon road connecting the West Coast with southern Nevada, northwestern Arizona, and the Mohave Desert. A recent small-scale map of the Mojave Trail route in Nevada places the trail 1,200 feet outside of the corridor. The route of the Mojave Trail across Fort Mojave Reservation Lands in Nevada and Arizona has not been determined. It is currently unknown whether or not portions of the trail are included in the project right-of-way. This will be determined once the route centerline survey has been completed.

Several trails and roads are located within the corridor in Arizona above the Colorado River. One of these roads is believed to be the Beales Wagon Road. Various portions of this road have been recommended to the National Register (Green, 1988). The significance of the other trails will be assessed during the route centerline survey.

Five isolated artifact finds are located within the project area on the terraces northwest of the Colorado River. Isolates are cultural finds that are limited in areal extent, where a small number of artifacts, often representing a single activity, was discovered.

3.2.3.10.2 American Indian Concerns

The proposed pipeline would pass within 0.5 mile of the Fort Mojave Indian Reservation in Nevada and at several locations in Arizona. These Tribal lands are composed of 6 contiguous square miles of unused land stretching north and west of the Colorado River and a large parcel of land in Arizona that gives the Tribe control of almost 13 miles of the riverfront. Further east, there is a checkerboard of about 15 square miles of Tribal land mostly in agriculture on river-bottom lands. The Tribe has additional lands in Arizona and California that are further removed from the proposed pipeline.

The Tribe commissioned a study by the Center for Built Environment Studies (1987) to analyze the Colorado River Valley region and adjoining Tribal lands and to suggest various urban development scenarios and options. As a result of this study, the Fort Mojave Indian Tribe has granted two leases within the Nevada portion of the Reservation to casino and multifamily developers. This development is pending 1) a decision by the U.S. Congress to allow gaming on the Reservation; 2) clarification of Tribal power to sell and lease its water rights; and 3) a decision to build a new airport near Tribal land in Nevada. The study also advances other scenarios for urban and agricultural development of Tribal lands in Arizona.

Additional American Indian concerns in the vicinity of the proposed pipeline route were identified in the FEIR/S (1987). The Fort Mojave Indians consider the Piute Wash area as sensitive. Upstream reaches of the Piute Wash are crossed by the Nevada segment of the proposed pipeline route (Figure 3.2-2). Tribal representatives at the Fort Mojave

Reservation have expressed a concern regarding the Fort Mojave site and school (see Archaeology) (Garcia, 1988a). No other sites of religious or ceremonial concern were identified by Tribal representatives.

3.2.3.11 Paleontological Resources

There are no known special or unique paleontological resources of concern along the proposed pipeline route.

3.2.3.12 Visual Resources

Visual resources along much of the proposed pipeline route are generally characteristic of the Mohave-Sonoran Desert. Land forms consist of valleys, hills, alluvial fans and washes, steep mountains, and vestiges of volcanic formations. Vegetation is sparse.

The colors of the desert landscape range from dark grays and browns to light tans and light green. Textures are medium to coarse for the mountain/hill areas, and smooth to fine for the alluvial fan and wash areas (FEIR/S, 1987).

Man-made features occur sporadically in the desert and include highways, roads, electrical transmission lines, and pipelines. These and other man-made features become dominant in the urbanized area around Bullhead City and along

the Colorado River. The Colorado River shoreline contains riparian vegetation, including cottonwood, willow, and mesquite, although this vegetation has been disturbed in the area of the proposed crossing.

The visual quality along the proposed pipeline is not representative of unique or scarce visual resources.

The entire route of the proposed pipeline in Nevada is rated by the BLM as Visual Resource Management (VRM) Class IV (Taylor, 1988). The visual management objectives for Class IV areas specify that alterations may attract attention and be a dominant feature of the landscape in terms of scale, but such alterations should repeat the form, line, color, and texture inherent in the characteristic landscape.

The Colorado River is rated by the BLM as VRM Class II (BLM, 1985). In order to preserve its visual quality, management of Class II landscape requires that changes in the basic elements not be obvious or evident to the observer. Changes should not measurably alter the landscape's original appearance.

The remainder of BLM land in Arizona that the proposed pipeline would traverse is rated as VRM Classes III and IV (BLM, 1978 and 1985). Management of Class III lands allows that contrasts to the basic elements may be evident and begin to attract attention, but they should remain subordinate to the existing characteristic landscape.

Private lands that the pipeline would cross are not managed for visual quality.

4.0 ENVIRONMENTAL CONSEQUENCES

4.3 WYCAL ROUTE VARIATIONS

4.3.3 STATELINE SOUTH VARIATION

4.3.3.1 Air Quality

The construction/installation of the proposed pipeline would result in an increase of fugitive dust and construction equipment exhaust emissions. Pollutant emissions that occur during construction (mobile emissions) are exempt from PSD review since PSD regulations exempt temporary increases of all criteria pollutants. Temporary is defined by the EPA as less than 2 years.

Fugitive dust would increase temporarily during the construction phase because of vehicle use of unpaved roads, excavation of pipeline trenches, and suspension of fine soil particles in the air by winds. The measured TSP values at Bullhead City indicate that the 24-hour National Ambient Air Quality Standard has not been violated. PM_{10} values are conservatively estimated to be 45 percent of TSP, indicating that the short-term (24-hour) PM_{10} standard has not been violated. WyCal, therefore, does not expect that any short-term particulate standard will be violated from the construction of its pipeline.

After pipeline construction has been completed and disturbed areas are revegetated, only minimal fugitive dust problems would occur unless the route is used by off-road vehicles. Such use is anticipated to be minimal because of the project area's remoteness. Inspection of the completed pipeline will be done by overflights of the pipeline route. Temporary and insignificant increases in dust and vehicular emissions may result if vehicles travel along the route to perform maintenance and repairs.

4.3.3.2 Geology

Topography. Minor impacts to existing topographic conditions will occur as a result of pipeline construction. Mounding or settling of backfill material along the pipeline trench, scattering of unused excavated soil within the project corridor and, where necessary, development of borrow pits will alter existing topography and have a minor influence on local surface drainage patterns. Blasting of rock along mountain crossings will also produce minor permanent topographic alterations.

Slope Stability. No known landslides exist along or near the project route. However, slope failures could result from construction. Loose sand in dunes near the Colorado River can result in unstable temporary construction slopes.

Slope failures may occur along the margins of incised ephemeral drainage channels where streambanks are locally steep.

Seismicity. Strong ground shaking from nearby earthquakes can cause damage to buried piping. Soil liquefaction can occur in saturated loose sandy deposits when subject to moderate to strong earthquake ground shaking. Liquefaction can cause lack of support for buried piping and downslope flow (lateral spreading) of liquefield soil on gentle to moderate slopes. Areas near the Colorado River, from miles 9.0 to 11.0, and low areas in intermountain valleys, from miles 25.0 to 30.6, appear to have the greatest potential susceptibility to soil liquefaction during earthquakes. No seismic activity of any significant magnitude is expected in this area.

Flash Floods and Debris Flows. Flash floods and debris flows can cause erosion, washouts, and damage to buried piping during operation in reaches of ephemeral drainages where erosion occurs from flash flooding and debris flows. Deposition of debris in downslope areas should not adversely affect buried piping.

Stream Bottom Scour. Stream bottom scour during high water stages of the Colorado River is a potential operational impact. An increase in flow velocity of the river can result in deepening of the river bed by scour. Often, the scour is not permanent and the streambed load is redeposited during the waning stages of flooding. Depth of scour at any given location is affected by many variables including stream configuration and hydraulics, floodwater rise, and streambed sediment type. Pipeline construction will be deep enough to avoid any construction- or operation-related impacts that may otherwise result from scouring.

4.3.3.3 Soil

Pipeline construction would disturb topsoil and subsurface soils. Impacts could include the loss of topsoils, including the mixing of topsoil with less suitable, possibly alkaline or saline, subsoils; removal of vegetative cover; and disturbance of desert pavement resulting in accelerated soil erosion, soil compaction, and the reduction in reclamation potential of the disturbed lands because of loss of soil productivity. These impacts may affect soil erosion and stability once the proposed pipeline construction is completed. However, these effects can be mitigated following the recommendations contained in the FEIR/S (1987).

The fine-textured soils, particularly those found in the Piute Valley, Nevada, in playa and low-lying valley areas, and along the Arizona segment, would be susceptible to increased wind erosion after disturbance. Most other soils along the route are of a medium to coarse texture and are

mixed with gravels and rocks that would reduce wind erosion potentials.

Mixing of soils could result in the decreased reclamation potential of the disturbed soils along the pipeline right-of-way. Increased alkalinity and/or salinity of soils could inhibit plant growth and germination of seeds. Because of the low annual precipitation and poor soils in the area, revegetation potential is expected to be low in disturbed areas.

An indirect impact on soils during operational periods would be increased access to the pipeline corridor by off-road vehicles. This type of disturbance would result in some vegetation loss, soil destabilization, increased potential for wind erosion, and soil compaction. Because of the area's remoteness, off-road vehicle use is likely to be minimal. Maintenance vehicles may have the same type of impacts. Flash floods along ephemeral streambanks may cause water erosion that could undercut the pipeline as it crosses these low-lying areas.

4.3.3.4 Surface Water

Construction of the pipeline through intermittent channels would alter the stream channel geometry. This could result in either increased erosion and sediment transport or possibly sediment deposition in the area. The impact from construction should be minimal if appropriate mitigation measures are implemented. However, if a flash flood occurs during construction, the extent of these impacts could increase.

No long-term impacts on the water quality of the Colorado River are expected from pipeline construction. Short-term impacts on water quality will result from increased turbidity and sedimentation. Water quality in the Colorado River could also be affected by increased erosion if a storm event occurred during construction. However, this would occur only for a short period and would have a minimal impact if appropriate erosion control methods are used during construction.

Use of surface water for hydrostatic testing, except near the Colorado River, is not anticipated because of the scarcity of surface water along the proposed route. However, some discharge of test water is likely. Impacts of erosion and water quality degradation can be minimized by applying appropriate mitigation measures contained in the FEIR/S (1987).

4.3.3.5 Groundwater

Groundwater is the primary source of water along the proposed route, except near the Colorado River. Any degradation of groundwater quality would therefore be classified as a significant impact. However, the likelihood of impacts in the construction area is low.

The following potential groundwater impacts have been identified: 1) drainage or spills of fuel oil or other chemicals; 2) withdrawal of significant quantities of groundwater that may impact down-gradient users; 3) localized diversion due to channeling of groundwater in the open or backfilled trench; and 4) impacts from discharge of hydrostatic test water. These potential impacts can be avoided or minimized with appropriate mitigation measures.

Potential groundwater impacts during the operational phase of the project are the same as listed for construction. However, the likelihood of impacts appears low and similar mitigation measures can be used to avoid these potential impacts.

4.3.3.6 Freshwater Biology

The only aquatic resources known to occur within the proposed pipeline right-of-way are those of the Colorado River.

Species inhabiting the river at the proposed crossing site could be temporarily impacted during pipeline construction because of increased turbidity and sedimentation. These impacts are expected to be of short duration and are not expected to result in significant long-term adverse impacts. Appropriate mitigation measures described in the FEIR/S (1987) will be employed during pipeline construction to minimize potential impacts on aquatic resources. Surveys will be conducted in the vicinity of the proposed crossing site to determine if bonytail chub (federal endangered species) or razorback sucker (federal candidate species) are present or if suitable habitat exists that suggests their presence. The pipeline centerline should be located to avoid direct impacts on these species' spawning and rearing habitats. Pipeline construction should be timed to avoid periods of spawning, rearing, and any migratory movements by these two species through the area of the proposed crossing.

There will be some ground disturbance in the vicinity of the Colorado River and at the crossing of the intermittent drainage that joins the river near the proposed crossing. This disturbance could subsequently result in increased river sediment loads and turbidity during runoff events. Any such increases would be expected to be temporary and not have a significant or long-term impact on aquatic resources. Because

of the naturally-occurring potential for marked increases in sediment load and river turbidity during intense rainfall/runoff events, construction-related increases beyond background levels would be expected to be minimal. There would be no impacts to aquatic resources during pipeline operation and maintenance.

4.3.3.7 Terrestrial Biology

4.3.3.7.1 Vegetation

Construction of the proposed pipeline would result in the surface disturbance of a 50- to 100-foot-wide right-of-way, or 6 to 12 acres disturbed per mile of pipeline. This represents between about 125 and 250 acres in Nevada and between about 50 and 100 acres in Arizona. An estimated 7 miles (primarily the northernmost miles) of the 9 miles in Arizona have been previously disturbed. If the pipeline centerline follows these disturbed areas, approximately 2 miles (the southernmost 2 miles) or between 12 and 24 acres of undisturbed habitat would be affected by pipeline construction in Arizona.

It is expected that two additional areas of approximately 12 acres each would be disturbed for construction staging.

The duration of this impact will be short but could be extended due to the poor soil and harsh growing conditions.

Generally, the major impacts to vegetation would occur during the construction phase. Operational phase impacts would only occur if repairs were required because of a leak in the pipeline. However, the impacts resulting from construction would probably continue through part of the operational phase because of the long time required for recovery of the native plant communities.

Additional impacts to vegetation could result from new areas becoming accessible to off-road vehicles via the pipeline route. Because of the remoteness of the area, use by off-road vehicles is likely to be very minimal.

4.3.3.7.2 Wildlife

Direct wildlife habitat loss during pipeline construction will be relatively small in terms of acres affected, as noted above in the discussion of vegetation. This is especially so along the 7 northernmost miles of the Arizona segment where much of the surface has been previously disturbed. However, land surface disturbance would contribute a long-term impact because of the low probability of successful revegetation. Poor-quality rocky soil, low rainfall, and very high evaporation rates will make the successful revegetation of disturbed sites very difficult.

Of the wildlife species discussed, the desert tortoise has the highest probability of being impacted by project construction. Much of the route passes through known or potential tortoise range, with the route segment between miles 25.5 and 30.6 in Nevada passing through an area containing crucial desert tortoise habitat. With appropriate mitigation, however, direct impacts on tortoises can be reduced. It appears unlikely that the other wildlife species discussed would suffer significant loss of either habitat or individuals as a result of pipeline construction. The federally endangered peregrine falcon, bald eagle, and Yuma clapper rail have not been reported to occur along the proposed pipeline route and would therefore not be impacted by pipeline construction or operation.

No direct wildlife impacts would result from operation of the pipeline. However, new areas could be opened to off-road vehicle use via the pipeline right-of-way. This could result in additional impacts to desert tortoises and their habitat, as well as impacts to other wildlife and wildlife habitat. Because of the remoteness of the area, use by off-road vehicles and associated impacts is expected to be minimal.

4.3.3.7.3 Grazing

A discussion of potential grazing impacts is presented in the FEIR/S, I/4.2.7.3, I/4.7.1.7.3, and II/4.2.7.3. This narrative also describes criteria used to develop significance levels of potential impacts, and the assumptions necessary to assess these impacts.

Some potential grazing lands could be disturbed during pipeline construction. However, because the three grazing allotments that would be affected by the proposed pipeline are so large, no significant impacts to forage available for grazing are anticipated. If pipeline construction occurs near springs or other sources of water, this could possibly impact a critical water supply. No additional impacts are expected to occur from pipeline operation and maintenance.

4.3.3.8 Socioeconomics

4.3.3.8.1 Population, Housing, and Economic Characteristics

Neither Clark County, Nevada, nor Mohave County, Arizona, is expected to receive any significant socioeconomic impacts

from the proposed project. Most of the labor force would probably come from outside the area, but some local employment opportunities could occur. Some expenditures by the labor force would occur within the communities for food and other smaller items and in those communities having adequate temporary housing to accommodate the construction force. In the event of housing shortages, a construction camp could be provided. Minor disruption of traffic might occur where the pipeline passes under roads, but these would be very brief. Some dust and noise from construction may be noticed where the line passes through inhabited areas. Residences generally occur along the route only in Mohave County, Arizona, and are scattered, so few receptors will be encountered and the impact will be very brief. Impacts to roads from construction equipment should be minimal because of the brevity of construction in a single area.

Some additional property tax revenue will accrue to local governments as a result of pipeline operation.

4.3.3.8.2 Traffic

Pipeline construction may affect traffic on transportation corridors in two ways: the construction of highway crossings, and the increased movement of equipment, supplies, and workers' personal vehicles on roadways.

Impacts to traffic caused by the movement of equipment, supplies, and workers' personal vehicles on roadways is expected to be temporary. Use of existing roads will increase traffic, which could result in safety concerns, delays, and increased maintenance needs.

For the purposes of this report, significant impacts to traffic are those that result in delays or detours of traffic for more than 1 week at any one crossing. No such significant impacts to traffic are anticipated.

Traffic related to operation and maintenance of the proposed pipeline is expected to be minimal. No impacts are anticipated. Utility transmission facilities will be unaffected by pipeline operation and maintenance.

4.3.3.8.3 Noise

The effects of the increased noise associated with pipeline construction would represent a temporary situation. It is anticipated that specific local areas could be affected by construction noise for no more than 2 weeks.

Construction noise along the Clark County segment of the proposed route would not be a significant impact since construction activities would be temporary and there are very

few sensitive noise receptors present. Sensitive noise receptors (residences) are present along the Mohave County segment of the proposed route and could be temporarily impacted during construction activities. The FEIR/S (1987) reports that noise levels attributable to a construction spread typically range from about 70 dBA at 250 feet from the pipeline to about 50 dBA at 2,500 feet. It further states, based on Environmental Protection Agency determinations, that permanent noise levels greater than an Ldn of 55 dBA would be a significant adverse impact. This level could be exceeded for brief periods at residences located within about one-third to one-half mile of the Mohave County segment. There would be no significant long-term noise impacts associated with pipeline construction.

Noise associated with the operation and maintenance of the proposed pipeline will be minimal. Therefore, no significant impacts are anticipated.

4.3.3.8.4 Recreational Resources

Impacts during construction may occur to both organized and dispersed recreational activities. However, these impacts are expected to be both minimal and temporary.

Since recreational opportunities in the project area are not generally site-specific, activities temporarily displaced by pipeline construction could be relocated nearby. One exception is recreation associated with the Colorado River at the proposed crossing site. Here, competition for public river access has concentrated recreational use. Pipeline construction activities could temporarily impact river access, restrict boating movements at the crossing site, and reduce the quality of recreational opportunities. Because of the vastness of the area, it is not anticipated that competition for land-based recreation space will be greatly increased during pipeline construction.

Since the proposed pipeline will be buried along its entire length and surface facilities will be minimal, no impacts to recreation are expected from its operation. However, it is likely that some recreational activities may occasionally need to be relocated or curtailed because of the presence of maintenance or repair activities and equipment. Such minimal impacts are expected to be temporary.

The pipeline right-of-way and associated service road are not anticipated to provide access to any areas currently inaccessible to off-road vehicles.

4.3.3.8.5 Mining

Miscellaneous mineral deposits occur in the area of the proposed route. The route would pass through 2.2 miles of mining claims located on BLM land in Nevada. Pipeline construction would result in surface disturbance of a 50- to 100-foot-wide right-of-way, or 6 to 12 acres disturbed per mile of pipeline. This represents a surface disturbance of between about 13 and 26 acres on mining claims. The pipeline is not expected to affect mineral production or exploration because of the relatively narrow pipeline right-of-way.

4.3.3.9 Land Ownership/Use

The proposed pipeline route passes through 23.5 miles of federal (BLM) land and 7.0 miles of private land. Pipeline construction would result in surface disturbance of a 50- to 100-foot-wide right-of-way, or 6 to 12 acres disturbed per mile of pipeline. This amounts to a total surface disturbance of between about 140 and 280 acres of federal land and between about 40 and 80 acres of private land for the proposed pipeline route. No significant land use impacts have been identified for the proposed route. Slight variations in the proposed route could be developed to avoid any specific land use conflicts should they arise. Such variations, if necessary, could likely be accommodated within the analyzed pipeline corridor.

4.3.3.10 Cultural Resources

4.3.3.10.1 Archaeology

Eighteen cultural resource sites are located in the proposed ROW corridor. In addition, five isolates lie within the corridor. Most sites within the corridor could be avoided by careful planning prior to siting the pipeline. Several historic trails and roads will need to be precisely located and evaluated prior to project construction. The Colorado River flood plain east of the second terrace in Nevada may contain buried archaeological deposits (Brooks et al., 1977). No unavoidable adverse effects have been identified.

Mitigation measures that will be followed during pipeline construction are described in the FEIR/S, III/3.1.10, Measure Nos. 106 and 107. A Class III cultural resource survey of the project corridor, in compliance with 36 CFR 800, will be required prior to project development.

4.3.3.10.2 American Indian Concerns

The Fort Mojave Indian Tribe is proceeding with plans to develop its Nevada property with a casino and multi-family

dwellings. Although the pipeline does not cross Tribal lands, the Tribe has indicated that it opposes the proposed pipeline corridor because of its present development plans and the perceived limitations the corridor might impose on the development's northern boundary (Garcia, 1988[b]). Given the mitigation measures included in the FEIR/S and DOT operational requirements, there will be no impacts on this proposed development.

Mitigation measures that will be followed during pipeline construction were described above under Archaeology and in the FEIR/S (1987).

4.3.3.11 Paleontological Resources

Since there are no known special or unique paleontological resources of concern along the proposed route, there will be no impacts during pipeline construction or operation.

4.3.3.12 Visual Resources

The impact of pipeline construction on visual resources is dependent, in part, upon the quality of the existing visual resources and the length of time alterations would remain visible. Only the residual effects of construction, such as surface scars, removal of vegetation, and placement of permanent structures, are important in determining impact. All other impacts are considered insignificant, because construction crews, activities, and equipment would be visible only temporarily. The addition of ancillary pipeline facilities, such as valves and communication sites, would be insignificant because of the facilities' small size relative to the landscape.

The VRM Class IV lands along the proposed route may have alterations that attract attention, but such alterations should repeat the form, line, color, and texture inherent in the characteristic landscape. Visual evidence of the pipeline route would constitute an impact for several years following construction because of the slow rate of revegetation in this arid region. However, 5 to 10 years after construction, revegetation of the disturbed areas should be sufficient to approximate the color and texture of the surrounding landscape, thereby reducing impacts to a level consistent with visual management objectives of the area.

VRM Class III lands would be crossed by the proposed pipeline in Arizona. Management of Class III lands allows that contrasts to the basic elements may be evident and begin to attract attention, but they should remain subordinate to the existing characteristic landscape. Revegetation of these disturbed areas will require 10 or more years before visual evidence of the pipeline route becomes subordinate to the existing characteristic landscape, thereby reducing impacts to a level consistent with the visual management objectives.

Visual impacts to the Colorado River (VRM Class II) during pipeline construction will be temporary. There will be no permanent visual impacts to the river once the pipeline is in place.

Since private lands that would be traversed by the pipeline are not managed for visual quality, no impacts are expected.

Pipeline operation and maintenance would have little or no adverse effect on the visual landscape.

4.3.3.13 System Safety and Reliability

The Stateline South Variation would be 30.6 miles long. It would pass through essentially unpopulated areas in Clark County, Nevada, and through some areas of planned or partially developed subdivisions in Mohave County, Arizona. The proposed route does not cross any known active faults or potentially active faults. The likelihood of pipeline rupture along the Stateline South Variation is considered to be a very remote possibility.

4.4 CUMULATIVE IMPACTS

Cumulative impacts associated with the proposed Stateline South Variation and with other pipeline routes proposed by WyCal are addressed in a separate document.

4.5 PLANNED AND RECOMMENDED MITIGATION MEASURES

The general and specific mitigation measures identified in the FEIR/S, III/3.1 are also adopted by WyCal for the Stateline South Variation, with the exception of Measures Nos. 144 and 152 which recommended the use of the Wasatch Variation and the North Las Vegas alternative route.

REFERENCES CITED

AIR QUALITY

Arizona Department of Environmental Quality. 1986. 1986 Air Quality Control for Arizona. Annual Report.

Arizona Department of Environmental Quality. 1987. 1987 Air Quality Control for Arizona. Annual Report. Pp. 43, 49, and 56.

California State Lands Commission and Federal Energy Regulatory Commission. 1987. Mojave-Kern River--El Dorado Natural Gas Pipeline Projects. Final Environmental Impact Report/ Statement.

Clark County Board of Health. 1987. Air Quality Trends. Clark County Board of Health, Las Vegas, Nevada.

GEOLOGY

Algermissen, S. T., D. M. Perkins, P. C. Thenhaus, S. L. Hanson, and B. L. Bender. 1982. Probabilistic Estimates of Maximum Acceleration and Velocity in Rock in the Contiguous United States. U.S. Geological Survey Open-File Report OFR 82-1033, 99 pp.

Bolborth, A. 1973. Geology of the Granite Complex. Nevada Bureau of Mines and Geology Bulletin 80.

Jennings, C. W. 1975. Fault Map of California. California Division of Mines and Geology Data Map Series, Map No. 1, Scale 1:750,000.

Jones, R. B. and K. G. Papke. 1984. Active Mines and Oil Fields in Nevada--1983. Nevada Bureau of Mines and Geology Map 84, Scale 1:1,000,000.

Longwell, C., R. Panpeyan, B. Bower, and R. J. Roberts. 1965. Geology and Mineral Deposits of Clark County, Nevada. Nevada Bureau of Mines and Geology Bulletin 62, 218 pp, Map Scale 1:250,000.

Metzger, D. G. and O. J. Loeltz. 1973. Geohydrology of the Needles Area, Arizona, California, and Nevada. U.S. Geological Survey Professional Paper 486-J, 47 pp.

Nakata, J. K., C. M. Wentworth, and M. N. Machette. 1982. Quaternary Fault Map of the Basin and Range and Rio Grande Rift Provinces, Western United States. U.S. Geological Survey Open-File Report OFR 82-579, Map Scale 1:2,500,000.

Stewart, J. H. 1980. Geology of Nevada--A Discussion to Accompany the Geologic Map of Nevada. Nevada Bureau of Mines and Geology Special Publication 4, 136 pp.

Stewart, J. H. and J. E. Carlson. 1978. Geologic Map of Nevada. U.S. Geological Survey, Scale 1:500,000.

Topazada, T. R., C. R. Real, and D. L. Parke. 1981. Preparation of Isoseismal Maps and Summaries of Reported Effects for Pre-1900 California Earthquakes. California Division of Mines and Geology Open File Report 81-11 SAC 182 pp.

Wilson, E. D., T. T. Moore, and J. R. Cooper. 1969. Geologic Map of Arizona. U.S. Geological Survey, 1:500,000.

SOIL

Richmond, D. L. and M. L. Richardson. 1974. General Soil Map and Interpretations, Mohave County, Arizona.

Soil Conservation Service. 1975. Soil Taxonomy. Agricultural Handbook No. 436.

Soil Conservation Service. 1977. Colorado River Valley Reconnaissance Soil Survey, Unpublished Data.

SURFACE WATER

California State Lands Commission and Federal Energy Regulatory Commission. 1987. Mojave-Kern River-El Dorado Natural Gas Pipeline Projects. Final Environmental Impact Report/Statement.

Metzger, D. G. and O. J. Loeltz. 1973. Geohydrology of the Needles Area, Arizona, California, and Nevada. U.S. Geological Survey Professional Paper 486-J, 47 pp.

U.S. Department of Commerce. 1961. Rainfall Frequency Atlas of the United States. Technical Paper No. 40.

U.S. Geological Survey. 1954. Kingman 1:250,000 Scale Topographic Map.

GROUNDWATER

Brown, S. G. 1976. Preliminary Maps Showing Groundwater Resources in the Lower Colorado River Region, Arizona, Nevada, New Mexico, and Utah. U.S. Geological Survey Atlas, HA-542.

Kister, L. R. 1973. Quality of Groundwater in the Lower Colorado River Region, Arizona, Nevada, New Mexico, and Utah. U.S. Geological Survey Atlas, HA-478.

FRESHWATER BIOLOGY

California State Lands Commission and Federal Energy Regulatory Commission. 1987. Mojave-Kern River--El Dorado Natural Gas Pipeline Projects. Final Environmental Impact Report/Statement.

VEGETATION

Bureau of Land Management. 1978. Final Environmental Statement: Proposed Livestock Grazing Program, Cerbat/Black Mountain Planning Units. USDI, BLM, Mohave County, Arizona.

Bureau of Land Management. 1982. Draft Environmental Impact Statement: Proposed Domestic Livestock Grazing Management Program for Clark County, Nevada. Las Vegas District, Nevada.

WILDLIFE

Bureau of Land Management. 1978. Final Environmental Statement: Proposed Livestock Grazing Program, Cerbat/Black Mountain Planning Units. USDI, BLM, Mohave County, Arizona.

Bureau of Land Management. 1982. Draft Environmental Impact Statement: Proposed Domestic Livestock Grazing Management Program for Clark County, Nevada. Las Vegas District, Nevada.

Bureau of Land Management. 1985. Yuma District Resource Management Plan and Environmental Impact Statement. Final Report. Yuma District, Arizona.

Hall, B. 1988. Bureau of Land Management, Personal Communication, Kingman, Arizona. August 5, 1988.

Leslie, D. M., Jr. 1977. Home Range, Group Size, and Group Integrity of Desert Bighorn in the River Mountains, Nevada. Pp. 25-28 in Desert Bighorn Council Transactions.

GRAZING

Bureau of Land Management. 1978. Final Environmental Statement: Proposed Livestock Grazing Program, Cerbat/Black Mountain Planning Units. USDI, BLM, Mohave County, Arizona.

Bureau of Land Management. 1982. Draft Environmental Impact Statement: Proposed Domestic Livestock Grazing Management Program for Clark County, Nevada. Las Vegas District, Nevada.

Bureau of Land Management. 1985. Yuma District Resource Management Plan and Environmental Impact Statement. Final Report. Yuma District, Arizona.

California State Lands Commission and Federal Energy Regulatory Commission. 1987. Mojave-Kern River--El Dorado Natural Gas Pipeline Projects. Final Environmental Impact Report/Statement.

Jamrog, J. 1988. Bureau of Land Management, Personal Communication, Las Vegas, Nevada. April 5, 1988.

SOCIOECONOMICS

Algots, J. August 8, 1988. Fort Mojave Indian Reservation, Agriculture Department, Personal Communication, Mohave Valley, Arizona.

WY-102

Bruno, B. 1988. Bureau of Land Management, Personal Communication, Las Vegas, Nevada. August 1, 1988.

Bureau of Land Management. 1978. Final Environmental Statement: Proposed Livestock Grazing Program, Cerbat/Black Mountain Planning Units. USDI, BLM, Mohave County, Arizona.

Bureau of Land Management. 1980. Parker Strip Recreation Management Plan. USDI, BLM, Yuma District Office, Yuma, Arizona.

Bureau of Land Management. Undated. Las Vegas District Recreation Management. Unpublished Report. USDI, BLM, Las Vegas, Nevada.

California State Lands Commission and Federal Energy Regulatory Commission. 1987. Mojave-Kern River--El Dorado Natural Gas Pipeline Projects. Final Environmental Impact Report/ Statement.

CULTURAL RESOURCES

Brooks, R. H., J. King, M. McMackin, D. Ferrarb, and K. Olson. 1977. The Fort Mojave Cultural Resource Inventory, An Archaeological/Historical Field Investigation in Southern Clark County, Nevada. Prepared for the Bureau of Land Management, Nevada State Office, Reno, by the Archaeological Research Center, University of Nevada-Las Vegas.

California State Lands Commission and Federal Energy Regulatory Commission. 1987. Mojave-Kern River--El Dorado Natural Gas Pipeline Projects. Final Environmental Impact Report/ Statement.

Center for Built Environment Studies. 1987. The Fort Mojave Tribal Lands Report. University of Colorado at Denver, School of Architecture and Planning, June 1987.

Ford, M. 1988. Bureau of Land Management, Personal Communication. Yuma District Office, Arizona. August 18, 1988.

Garcia, N. 1988a. Fort Mojave Tribal Office, Personal Communication. Fort Mojave Indian Reservation. August 10, 1988.

Garcia, N. 1988b. Fort Mojave Indian Tribe, Personal Communication, Needles, California. August 22, 1988.

Green, J. 1988. Bureau of Land Management, Personal Communication. Yuma District Office, Arizona. August 10, 1988.

Johnson, B. 1988. Bureau of Land Management, Personal Communication. Yuma District Office, Arizona. August 19, 1988.

VISUAL RESOURCES

Bureau of Land Management. 1978. Final Environmental Statement: Proposed Livestock Grazing Program, Cerbat/Black Mountain Planning Units. USDI, BLM, Mohave County, Arizona.

Bureau of Land Management. 1985. Yuma District Resource Management Plan and Environmental Impact Statement. Final Report. Yuma District, Arizona.

California State Lands Commission and Federal Energy Regulatory Commission. 1987. Mojave-Kern River--El Dorado Natural Gas Pipeline Projects. Final Environmental Impact Report/ Statement.

Taylor, B. 1988. Bureau of Land Management, Personal Communication, Las Vegas, Nevada. April 8, 1988.

Appendix D
BUREAU OF LAND MANAGEMENT
OFF-ROAD VEHICLE DESIGNATIONS
FOR CLARK COUNTY, NEVADA

OPEN DESIGNATION

Open to individual, group and competitive use. Competition, groups of over 50 vehicles, and commercial users require permits and are subject to permit stipulations including a 1/4 mile buffer from all water sources.

LIMITED DESIGNATION

L1 - Use is limited to existing roads, trails, and sand washes--no cross-country travel. This applies to all vehicle users.

L1A - Also, no high speed events.

Gold Butte is limited to protect small game, desert tortoise, and bighorn sheep habitat.

Buffington Pockets/Colorock Quarry is limited to protect its scenic features.

L1B - Also, no high speed competitive events except for street legal road rallies on the Trout Canyon to Lovell Canyon Road. This designation is for the protection of the recreational and scenic values of the Spring Mountains.

L2 - Limited season of use. This applies to competitive events only.

L2A - Pahranagat/Meadow Valley Wash

1. March to October - No racing
2. November to April
    a. Only 2, non-pre-run, motorcycle races per year.
    b. Only 1, pre-run, dune buggy race per year to take place on a designated route which will include old U.S. 93.

These limitations are applied to minimize conflicts with bighorn sheep migrations and crucial summer habitat.

L2B - McCullough Pass is closed to competitive events in July and August to avoid conflicts with bighorn sheep migration.

L2C - Southern Spring Mountains and Bird Spring Range.

1. February, March, April, September, October - open to all kinds of racing.
2. November, December, January - no pre-running.
3. May, June, July, August - only 3 pre-run events per season.

These limitations are for the purpose of minimizing conflicts with bighorn sheep hunting and migrations and critical quail and bighorn sheep summer habitat.

L3 - Use is limited to designed roads only in Red Rock Canyon Recreation Lands. This applies to all vehicle users. Closed trails and roads will be posted. Also, no high speed competitive events are permitted north of the Pahrump Highway. These limitations are for the protection of the scenic value of the area and the recreational uses it supports. Conflicts between different types of recreation will also be minimized.

L4 - Limited type of use. These limitations do not apply to individuals.

L4A - Southern Eldorado Valley/Northern Piute Valley.

1. Non-Spectator Speed Events (Motorcycles)

    Limited to 200 entrants; no pre-running; avoid scheduling events on opening weekend of game seasons.

2. Sport Car Rallies (street legal only).

    Limited to 200 entrants; designated routes only.

3. Non-Speed Events (all types of vehicles)

    Limited to 200 entrants; avoid scheduling events on opening weekend of game seasons; no multiple lapped events.

4. Spectator Speed Events (4x4s, dune buggies, motorcycles)

Limited to 200 entrants; pre-running is limited to the week before the event.

These limitations are for the protection of small game and desert tortoise habitat.

L4B - Southern Piute Valley, Laughlin.

1. Non-Spectator Speed Events (motorcycles)

Limited to 200 entrants; no pre-running; avoid scheduling events on opening weekend of game season.

2. Sport Car Rallies (street legal only)

Limited to 200 entrants; designated routes only.

3. Non-Speed Events (all types of vehicles)

Limited to 200 entrants; avoid scheduling events on opening weekend of game seasons; no multiple lapped events.

4. Spectator Speed Events

Limited to 200 entrants; existing roads, trails and dry washes only; only one event per year; use limited to period between the close of quail hunting season and March 15; start-finish, pitting and spectator areas will be designated within T.32S., R.56E., Sec. 9, 14, 15, and 16 if on public land; four laps only, and pre-running is limited to one week prior to the event.

L4C - Goodsprings area.

High speed competitive events are limited to existing roads, trails, courses, and sand washes to protect desert tortoise habitat.

L5 - Limited to use which will not conflict with bighorn sheep management in the River Mountains above 2,400 feet. This applies to all vehicle use. Events requiring permits will be reviewed on a case by case basis. Individual use will continue unless a problem develops requiring a road or area closure.

L6 - Limited to non-speed competitive and non-competitive use. This applies to competitive groups only.

Frenchman Mountain is limited to protect the area's natural qualities and buffer the proposed wetlands park.

The Las Vegas, North Las Vegas, Henderson and Boulder City metropolitan areas are limited to avoid air and noise pollution problems and conflicts with residents and other recreationists.

The Highway 93 area is closed to racing except for a corridor along the future powerline road. This is for the protection of bighorn sheep migration routes and desert tortoise habitat.

Arrow Canyon is closed to racing from the upper sand dune to the dam to protect the riparian habitat.

L7 - Limited to non-competitive use.

Desert Wetlands Park and Rainbow Gardens is limited to protect unique geologic formations and riparian habitat.

The Searchlight area is limited to minimize noise and air pollution around the residential area.

Upper Mormon Mesa is limited to protect bighorn sheep and desert tortoise habitat.

L8 - Limitations to protect crucial desert tortoise habitat. The limitations apply to group or competitive use only.

L8A - Areas West of I-15 and south of Pahrump Highway.

No more than 3 laps; designated pitting areas; use limited to October-April; confined to existing roads, courses, trails, and sand washes; maximum of 3 events per year.

L8B - Area south of Jean, east of I-15, west of the South McCullough Range and north of the Nevada-California border.

No more than 3 laps; designated pitting areas; use limited to October-April; confined to existing roads, courses, trials, and sand washes.

L8C - Southern Eldorado Valley and Northern Piute Valley Area.

1. Non-Spectator Speed Events (Motorcycles).

   Limited to 200 entrants; no pre-running; avoid scheduling on opening weekend of game seasons; no more than 3 laps; designated pitting areas, use limited to October to April; confined to existing roads, trails, courses, and sand washes.

2. Sport Car Rallies (street legal only).

   Limited to 200 entrants; designated routes only; use limited to October to April.

3. Non-Speed Events

   Limited to 200 entrants; avoid scheduling on opening weekend of game seasons; no multiple lapped events; use limited to October to April.

4. Spectator Speed Events

   Limited to 200 entrants; pre-running is limited to the week before the event; no more than 3 laps; designated pitting area; use limited to October to April; confined to existing roads, courses, trials, and sand washes.

L8D - Southern Piute Valley

1. Non-Spectator Speed Events (Motorcycles)

   Limited to 200 entrants; no pre-running; avoid scheduling events on opening weekend of game season; no more than 3 laps; designated pitting areas; use limited to October to April; confined to existing roads, courses, trails, and sand washes; maximum of 3 events per year.

2. Sport Car Rallies (street legal only).

Limited to 200 entrants; designated routes only; use limited to October to April.

3. Non-Speed Events.

Limited to 200 entrants; avoid scheduling events on opening weekend of game seasons; no multiple lapped events; use limited to October to April.

4. Spectator Speed Events.

No spectator speed events.

L8E - Areas adjacent to the south and east sides of the Moapa Indian Reservation.

Existing courses only for competitive events; designated pitting areas; no more than 4 laps; avoid creation of new trails by non-ORV users such as seismic crews.

L8F - Pahranagat/Meadow Valley Wash.

Use limited to November to April; only 2 non-pre-run motorcycle races per year; only 1 pre-run dune buggy race per year to take place on a designated route which will include old U.S. 93; no more than 3 laps, designated pitting area; confined to existing roads, trails, and sand washes.

CLOSED DESIGNATION

Closed to all vehicle use by both individuals and groups. This closure applies to the 3,308-acre Hidden Valley in the south Muddy Mountains to protect its unique scenic and primitive character.

WILDERNESS STUDY AREA (WSAs)

These areas are being studied to determine if they should become wilderness areas. Until Congress makes that decision, they are managed under special rules known as the Interim Management Policy (IMP). The ORV designations for the WSA still apply unless they are less restrictive than the IMP. The IMP allows individual ORV use on existing roads, trails, and sand washes. Competitive and group events may be compatible with the IMP guidelines if they are on existing routes and occurred in the area in the past. If an event is planned in a WSA, a BLM Recreation Planner should be contacted. Should the WSAs be designated wilderness, they will be closed to vehicle use.

PART III

CUMULATIVE IMPACT ASSESSMENT

This report addresses the potential cumulative impacts of more than one interstate natural gas pipeline being constructed to service the EOR customers. It addresses those locations where the WyCal and Kern River or WyCal and Mojave pipelines would likely be placed in the same corridor or potentially impact the same resources. Within the San Joaquin Valley all three pipelines could share a common corridor. Because the cumulative impacts are essentially additive, the reader should combine the data for each pipeline to determine their potential overall effect.

Certain segments of pipeline that are not shared with others are not addressed in the analysis. It is felt that impacts from sufficiently separate routes would operate independently on distinct environmental resources. Thus, impacts are only cumulative if they occur on a common resource stemming from separate activities.

This table of cumulative impacts was developed by comparing the impacts of each pipeline on a regional basis. These regions roughly correspond to the physiographic provinces that the proposed pipelines would traverse. Due to the great variety of data and data sources, the physiographic provinces do not translate into exact mileposts across all the environmental components examined. This regional approach, however, should provide a suitable means for examining environmental impacts across the vast areas that the pipeline proposals encounter.

The Mojave Desert physiographic segment of WyCal's and Kern River's northern leg is not included in this analysis. While they share a common route for part of the segment (about 100 miles), the data in the FEIS do not allow distinction of the shared and separate portions.

In all instances, quantifiers and qualifiers of environmental impacts listed in the table are the same as those used in the FEIR/S. All data presented in the table are from the FEIR/S and are based on the proposed routes presented in the FEIR/S.

Where acreages of impacts are reported, they refer to the disturbed area within the 100-foot-wide construction right-of-way assumed for each pipeline. Where pipelines are proposed to use the same route, it was assumed that they are parallel (within the same corridor) but mutually exclusive (no overlap of rights-of-way).

Because of the complex logistics associated with simultaneous construction scenarios, it was assumed that all multiple pipelines would be constructed sequentially (independent in time from each other) as opposed to simultaneously. However, it is not anticipated that impacts resulting from simultaneous construction, although different, would render the projects environmentally unacceptable. It was also assumed that all construction of a single pipeline within a given physiographic province would take place at the same time. Thus, for instance, employment within each physiographic province would be additive for each pipeline.

Impacts to cultural resources and paleontological resources are not presented in the table, because the data in the FEIR/S are not categorized by milepost or region.

The FEIR/S states that each pipeline project is environmentally acceptable. The data in this analysis indicate that cumulative impacts from more than one pipeline being constructed are simply additive. None of the impacts, either by environmental component or physiographic region, suggest the given combinations of pipelines would exceed the bounds of environmental acceptability.

CUMULATIVE IMPACTS

ENVIRONMENTAL COMPONENT	TYPE OF IMPACT	WYCAL	KERN RIVER
WYOMING BASIN:			
1. AIR QUALITY			
a. Construction Impacts		NSI*	NSI
b. Operational Impacts (Compressor Stations - 1 each)			
	Project Increment (ug/m3)		
	CO (1-hr)	NSI	NSI
	CO (8-hr)	NSI	NSI
	NO2 (Annual)	NSI	NSI
	SO2 (Annual)	NSI	NSI
	SO2 (24-hr)	NSI	NSI
	TSP (Annual)	NSI	NSI
	TSP (24-hr)	NSI	NSI
2. GEOLOGY		NSI	NSI
3. SOILS	Water Erosion Potential (miles)		
	Low	18.0	21.0
	Medium	5.0	11.0
	High	1.0	8.0
	Wind Erosion Potential (miles)		
	Low	0.0	0.0
	Medium	24.0	40.0
	High	0.0	0.0
	Reclamation Potential (miles)		
	Good	3.0	4.0
	Fair	11.0	23.0
	Poor	10.0	13.0
4. SURFACE WATER	Stream Crossings and Affected Streams		
	Perennial	13	17
	Intermittent (including canals)	22	7
5. GROUNDWATER	Miles of Potential Impact		
	High	0	0
	Medium	0	0
	Low	4	4
6. FRESHWATER BIOLOGY	Stream Crossings with Significant Impacts		
	Sedimentation	0	0
	Sensitive Species	0	0
7. TERRESTRIAL BIOLOGY			
a. Vegetation	Denuded Acres by Vegetation Type		
	Mixed Desert Scrub	313.7	181.7
	Sagebrush Scrub	145.5	302.9
	Wetland/Riparian	1.4	0.2
	Total	460.6	484.8

CUMULATIVE IMPACTS (Continued)

ENVIRONMENTAL COMPONENT	TYPE OF IMPACT	WYCAL	KERN RIVER
TERRESTRIAL BIOLOGY (Continued)			
b. Wildlife	Adverse Impacts to General Wildlife		
	Wintering Big Game	X	X
	Migrating Big Game	-	-
	Calving/Fawning Big Game	-	-
	Nesting/Breeding		
	Sage Grouse	X	X
	Upland Game Bird		
	Critical Habitat	-	-
	Nesting/Brooding		
	Waterfowl	-	-
	Nesting Raptors	X	X
	Adverse Impacts to Species of Special Concern		
	Black-Footed Ferret	X	X
c. Grazing	Impacts to Federal Allotments		
	Significant Impacts	-	-
	Minor Adverse Impacts	X	X
8. SOCIOECONOMICS			
a. Population	Inmigrant Population		
	Total	603	603
b. Employment	Construction Personnel Required		
	Local	225	225
	Non-Local	464	464
c. Income	Local Expenditures by Construction Personnel and Contractors (in millions of dollars)	7.6	7.2
d. Housing	Housing Demand by Inmigrants		
	Hotel/Motels	199	199
	Rental Units	129	129
	R/V Campers	125	125
e. Tax Base	Estimated Taxable Value of Pipeline and Facilities (in millions of dollars)	49.5	51.2
f. Traffic	Temporary Delays to Vehicular Traffic	X	X
g. Noise	Noise in Excess of 55 dBA		
	Temporary	X	X
	Permanent	-	-
h. Recreation	Impacts to Developed Facilities		
	Short-term	-	-
	Long-term	-	-
	Impacts to Dispersed Recreational Activities		
	Short-term	X	X
	Long-term	-	-

CUMULATIVE IMPACTS (Continued)

ENVIRONMENTAL COMPONENT	TYPE OF IMPACT	WYCAL	KERN RIVER
9. LAND OWNERSHIP/USE			
a. Ownership	Acres Disturbed		
	Private	135.7	75.2
	BLM	101.8	73.9
	State	9.7	7.4
	Forest Service	-	-
	DOD	-	-
a. Use	Acres Disturbed		
	Grazing/Rangeland	247.2	156.4
	Timber/Forest	-	-
	Agriculture	-	-
	Residential	-	-
10. VISUAL RESOURCES	Visual Impacts (Miles)		
	High	-	5.0
	Moderate	10.4	-
	Low	50.0	-
MIDDLE ROCKY MOUNTAINS:			
1. AIR QUALITY			
a. Construction Impacts		NSI	NSI
b. Operational Impacts		NSI	NSI
2. GEOLOGY	Presence of Significant Geological Hazards		
	Liquefaction/ Ground Failure	X	-
	Surface Fault Rupture	-	X
	Slope Instability	X	X
	Ground Subsidence	-	-
	Flash Flooding	-	-
	Avalanche	X	X
3. SOILS	Water Erosion Potential (miles)		
	Low	47.0	39.0
	Medium	69.0	57.0
	High	55.0	49.0
	Wind Erosion Potential (miles)		
	Low	81.0	81.0
	Medium	90.0	64.0
	High	0.0	0.0
	Reclamation Potential (miles)		
	Good	4.0	5.0
	Fair	106.0	88.0
	Poor	61.0	52.0
4. SURFACE WATER	Stream Crossings and Affected Streams		
	Perennial	27	27
	Intermittent (including canals)	9	9

CUMULATIVE IMPACTS (Continued)

ENVIRONMENTAL COMPONENT	TYPE OF IMPACT	WYCAL	KERN RIVER
5. GROUNDWATER	Miles of Potential Impact		
	High	0	0
	Medium	0	0
	Low	1	1
6. FRESHWATER BIOLOGY	Stream Crossings with Significant Impacts		
	Sedimentation	14	16
	Sensitive Species	4	4
7. TERRESTRIAL BIOLOGY			
a. Vegetation	Denuded Acres by Vegetation Type		
	Sagebrush Scrub	290.9	545.5
	Pinyon-Juniper Woodland	157.6	145.5
	Montane Forest	472.7	472.7
	Agricultural Land	48.5	48.5
	Mountain Brush	854.6	472.7
	Wetland/Riparian	78.7	72.7
	Total	1,903.0	1,757.6
b. Wildlife	Adverse Impacts to General Wildlife		
	Wintering Big Game	X	X
	Migrating Big Game	X	X
	Calving/Fawning Big Game	X	X
	Nesting/Breeding Sage Grouse	X	-
	Upland Game Bird Critical Habitat	-	-
	Nesting/Brooding Waterfowl	-	X
	Nesting Raptors	X	X
	Adverse Impacts to Species of Special Concern		
	Bald Eagle	X	X
c. Grazing	Impacts to Federal Allotments		
	Significant Impacts	X	X
	Minor Adverse Impacts	X	X
8. SOCIOECONOMICS			
a. Population	Inmigrant Population		
	Total	812	812
b. Employment	Construction Personnel Required		
	Local	303	303
	Non-Local	624	624
c. Income	Local Expenditures by Construction Personnel and Contractors (in millions of dollars)	15.2	11.6

CUMULATIVE IMPACTS (Continued)

ENVIRONMENTAL COMPONENT	TYPE OF IMPACT	WYCAL	KERN RIVER
SOCIOECONOMICS (Continued)			
d. Housing	Housing Demand by Inmigrants		
	Hotel/Motels	269	269
	Rental Units	175	175
	R/V Campers	169	169
e. Tax Base	Estimated Taxable Value of Pipeline and Facilities (in millions of dollars)	60.7	69.8
f. Traffic	Temporary Delays to Vehicular Traffic	X	X
g. Noise	Noise in Excess of 55 dBA		
	Temporary	X	X
	Permanent	-	-
h. Recreation	Impacts to Developed Facilities		
	Short-term	X	X
	Long-term	-	-
	Impacts to Dispersed Recreational Activities		
	Short-term	X	X
	Long-term	X	X
9. LAND OWNERSHIP/USE			
a. Ownership	Acres Disturbed		
	Private	1,419.3	1,370.9
	BLM	121.2	144.2
	State	44.5	53.2
	Forest Service	335.7	335.7
	DOD	-	-
a. Use	Acres Disturbed		
	Grazing/Rangeland	1,546.5	1,498.1
	Timber/Forest	347.8	347.8
	Agriculture	36.4	36.4
	Residential	-	-
10. VISUAL RESOURCES	Visual Impacts (Miles)		
	High	15.4	15.4
	Moderate	-	-
	Low	-	-
BASIN AND RANGE:			
1. AIR QUALITY			
a. Construction Impacts		NSI	NSI

CUMULATIVE IMPACTS (Continued)

ENVIRONMENTAL COMPONENT	TYPE OF IMPACT	WYCAL	KERN RIVER
AIR QUALITY (Continued)			
b. Operational Impacts (Compressor Stations - 2 each)			
	Project Increment (ug/m3)		
	CO (1-hr)	NSI	NSI
	CO (8-hr)	NSI	NSI
	NO2 (Annual)	NSI	18
	SO2 (Annual)	NSI	NSI
	SO2 (24-hr)	NSI	NSI
	TSP (Annual)	NSI	NSI
	TSP (24-hr)	NSI	NSI
2. GEOLOGY	Presence of Significant Geological Hazards		
	Liquefaction/ Ground Failure	X	X
	Surface Fault Rupture	-	-
	Slope Instability	X	X
	Ground Subsidence	X	X
	Flash Flooding	X	X
	Avalanche	-	-
3. SOILS	Water Erosion Potential (miles)		
	Low	155.0	155.0
	Medium	38.0	38.0
	High	12.0	12.0
	Wind Erosion Potential (miles)		
	Low	90.0	90.0
	Medium	115.0	115.0
	High	0.0	0.0
	Reclamation Potential (miles)		
	Good	61.0	61.0
	Fair	94.0	94.0
	Poor	50.0	50.0
4. SURFACE WATER	Stream Crossings and Affected Streams		
	Perennial	7	7
	Intermittent (including canals)	51	51
5. GROUNDWATER	Miles of Potential Impact		
	High	1	1
	Medium	7	7
	Low	47	47
6. FRESHWATER BIOLOGY	Stream Crossings with Significant Impacts		
	Sedimentation	0	0
	Sensitive Species	0	0

CUMULATIVE IMPACTS (Continued)

ENVIRONMENTAL COMPONENT	TYPE OF IMPACT	WYCAL	KERN RIVER
7. TERRESTRIAL BIOLOGY			
a. Vegetation	Denuded Acres by Vegetation Type		
	Mixed Desert Scrub	133.3	133.3
	Agricultural Land	400.0	400.0
	Sagebrush Scrub	1,127.3	1,127.3
	Utah Grassland	169.7	169.7
	Pinyon-Juniper Woodland	533.3	533.3
	Blackbrush Scrub	97.0	97.0
	Wetland/Riparian	24.2	24.2
	Total	2,484.8	2,484.8
b. Wildlife	Adverse Impacts to General Wildlife		
	Wintering Big Game	X	X
	Migrating Big Game	-	-
	Calving/Fawning Big Game	X	X
	Nesting/Breeding Sage Grouse	X	X
	Upland Game Bird Critical Habitat	X	X
	Nesting/Brooding Waterfowl	X	X
	Nesting Raptors	X	X
	Adverse Impacts to Species of Special Concern		
	Desert Tortoise	X	X
	Bald Eagle	X	X
c. Grazing	Impacts to Federal Allotments		
	Significant Impacts	-	-
	Minor Adverse Impacts	X	X
8. SOCIOECONOMICS			
a. Population	Inmigrant Population		
	Total	1,578	1,578
b. Employment	Construction Personnel Required		
	Local	588	588
	Non-Local	1,213	1,213
c. Income	Local Expenditures by Construction Personnel and Contractors (in millions of dollars)	24.8	23.6
d. Housing	Housing Demand by Inmigrants		
	Hotel/Motels	521	521
	Rental Units	339	339
	R/V Campers	327	327
e. Tax Base	Estimated Taxable Value of Pipeline and Facilities (in millions of dollars)	250.3	249.3
f. Traffic	Temporary Delays to Vehicular Traffic	X	X

CUMULATIVE IMPACTS (Continued)

ENVIRONMENTAL COMPONENT	TYPE OF IMPACT	WYCAL	KERN RIVER
SOCIOECONOMICS (Continued)			
g. Noise	Noise in Excess of 55 dBA		
	Temporary	X	X
	Permanent	-	-
h. Recreation	Impacts to Developed Facilities		
	Short-term	X	X
	Long-term	-	-
	Impacts to Dispersed Recreational Activities		
	Short-term	X	X
	Long-term	X	X
9. LAND OWNERSHIP/USE			
a. Ownership	Acres Disturbed		
	Private	1,506.6	1,598.7
	BLM	2,893.2	2,551.5
	State	133.3	133.3
	Forest Service	218.2	218.2
	DOD	-	-
b. Use	Acres Disturbed		
	Grazing/Rangeland	4,112.4	3,635.1
	Timber/Forest	213.3	213.3
	Agriculture	277.5	277.5
	Residential	70.4	230.3
	Other	77.6	145.5
10. VISUAL RESOURCES	Visual Impacts (Miles)		
	High	7.0	7.0
	Moderate	12.0	12.0
	Low	10.0	10.0

CUMULATIVE IMPACTS (Continued)

ENVIRONMENTAL COMPONENT	TYPE OF IMPACT	WYCAL	MOJAVE
MOJAVE DESERT:			
1. AIR QUALITY			
a. Construction Impacts		NSI	NSI
b. Operational Impacts (Compressor Stations - 1 each)			
	Project Increment (ug/m3)		
	CO (1-hr)	NSI	NSI
	CO (8-hr)	NSI	NSI
	NO2 (Annual)	NSI	59
	SO2 (Annual)	NSI	NSI
	SO2 (24-hr)	NSI	NSI
	TSP (Annual)	NSI	NSI
	TSP (24-hr)	NSI	NSI
2. GEOLOGY	Presence of Significant Geological Hazards		
	Liquefaction/ Ground Failure	X	X
	Surface Fault Rupture	X	X
	Slope Instability	-	-
	Ground Subsidence	-	-
	Flash Flooding	X	X
	Avalanche	-	-
3. SOILS	Water Erosion Potential (miles)		
	Low	229.0	229.0
	Medium	9.5	9.5
	High	6.0	6.0
	Wind Erosion Potential (miles)		
	Low	6.0	6.0
	Medium	50.0	50.0
	High	188.5	188.5
	Reclamation Potential (miles)		
	Good	6.0	6.0
	Fair	43.0	43.0
	Poor	195.5	195.5
4. SURFACE WATER	Stream Crossings and Affected Streams		
	Perennial	1	1
	Intermittent (including canals)	5	5
5. GROUNDWATER	Miles of Potential Impact		
	High	2	2
	Medium	20	20
	Low	0	0
6. FRESHWATER BIOLOGY	Stream Crossings with Significant Impacts		
	Sedimentation	1	1
	Sensitive Species	1	1

CUMULATIVE IMPACTS (Continued)

ENVIRONMENTAL COMPONENT	TYPE OF IMPACT	WYCAL	MOJAVE
7. TERRESTRIAL BIOLOGY			
a. Vegetation	Denuded Acres by Vegetation Type		
	Joshua Tree Woodland	174.5	174.5
	Mojavean Creosote Bush Scrub	2,129.5	2,129.5
	Agricultural Land	167.3	167.3
	Mojave Saltbush	421.8	421.8
	Teddybear Cholla	35.1	35.1
	Desert Dunes	23.0	23.0
	Wetland/Riparian	12.2	12.2
	Total	2,963.4	2,963.4
b. Wildlife	Adverse Impacts to General Wildlife		
	Wintering Big Game	-	-
	Migrating Big Game	-	-
	Calving/Fawning Big Game	-	-
	Nesting/Breeding Sage Grouse	-	-
	Upland Game Bird Critical Habitat	-	-
	Nesting/Brooding Waterfowl	X	X
	Nesting Raptors	X	X
	Adverse Impacts to Species of Special Concern		
	Bald Eagle	X	X
	Peregrine Falcon	X	X
	Yuma Clapper Rail	X	X
	Desert Tortoise	X	X
	Mohave Ground Squirrel	X	X
	Gila Monster	X	X
	Desert Bighorn Sheep	X	X
	Swainson's Hawk	X	X
c. Grazing	Impacts to Federal Allotments		
	Significant Impacts	-	-
	Minor Adverse Impacts	X	X
8. SOCIOECONOMICS			
a. Population	Inmigrant Population		
	Total	1,273	1,063
b. Employment	Construction Personnel Required		
	Local	472	393
	Non-Local	979	818
c. Income	Local Expenditures by Construction Personnel and Contractors (in millions of dollars)	17.8	23.1
d. Housing	Housing Demand by Inmigrants		
	Hotel/Motels	422	351
	Rental Units	274	229
	R/V Campers	264	220

CUMULATIVE IMPACTS (Continued)

ENVIRONMENTAL COMPONENT	TYPE OF IMPACT	WYCAL	MOJAVE
SOCIOECONOMICS (Continued)			
e. Tax Base	Estimated Taxable Value of Pipeline and Facilities (in millions of dollars)	169.0	142.9
f. Traffic	Temporary Delays to Vehicular Traffic	X	X
g. Noise	Noise in Excess of 55 dBA		
	Temporary	X	X
	Permanent	-	-
h. Recreation	Impacts to Developed Facilities		
	Short-term	X	X
	Long-term	-	-
	Impacts to Dispersed Recreational Activities		
	Short-term	X	X
	Long-term	X	X
9. LAND OWNERSHIP/USE			
a. Ownership	Acres Disturbed		
	Private	906.7	906.7
	BLM	1,482.4	1,482.4
	State	26.7	26.7
	Forest Service	-	-
	DOD	-	-
	NWR	87.2	87.2
a. Use	Acres Disturbed		
	Grazing/Rangeland	1,963.4	1,936.6
	Timber/Forest	-	-
	Agriculture	303.0	303.0
	Residential	57.0	57.0
	Commercial/Industrial	41.2	41.2
	Other	138.2	138.2
10. VISUAL RESOURCES	Visual Impacts (Miles)		
	High	-	-
	Moderate	18.7	18.7
	Low	5.5	5.5
SOUTHERN SIERRA NEVADA (TEHACHAPI MOUNTAINS):			
1. AIR QUALITY			
a. Construction Impacts		NSI	NSI
b. Operational Impacts		NSI	NSI
2. GEOLOGY	Presence of Significant Geological Hazards		
	Liquefaction/ Ground Failure	X	X
	Surface Fault Rupture	-	-
	Slope Instability	X	X
	Ground Subsidence	-	-
	Flash Flooding	X	X
	Avalanche	-	-

CUMULATIVE IMPACTS (Continued)

ENVIRONMENTAL COMPONENT	TYPE OF IMPACT	WYCAL	MOJAVE
3. SOILS	Water Erosion Potential (miles)		
	Low	7.0	7.0
	Medium	5.0	5.0
	High	16.0	16.0
	Wind Erosion Potential (miles)		
	Low	1.0	1.0
	Medium	24.0	24.0
	High	3.0	3.0
	Reclamation Potential (miles)		
	Good	3.0	3.0
	Fair	6.0	6.0
	Poor	19.0	19.0
4. SURFACE WATER	Stream Crossings and Affected Streams		
	Perennial	0	0
	Intermittent (including canals)	12	12
5. GROUNDWATER		NSI	NSI
6. FRESHWATER BIOLOGY	Stream Crossings with Significant Impacts		
	Sedimentation	0	0
	Sensitive Species	0	0
7. TERRESTRIAL BIOLOGY			
a. Vegetation	Denuded Acres by Vegetation Type		
	Mojavean Juniper Woodland and Scrub	48.5	48.5
	Digger Pine-Oak Woodland	237.4	237.4
	Valley and Foothill Grassland	53.3	53.3
	Wetland/Riparian	0.2	0.2
	Total	339.4	339.4
b. Wildlife	Adverse Impacts to General Wildlife		
	Wintering Big Game	-	-
	Migrating Big Game	-	-
	Calving/Fawning Big Game	-	-
	Nesting/Breeding Sage Grouse	-	-
	Upland Game Bird Critical Habitat	-	-
	Nesting/Brooding Waterfowl	-	-
	Nesting Raptors	-	-

CUMULATIVE IMPACTS (Continued)

ENVIRONMENTAL COMPONENT	TYPE OF IMPACT	WYCAL	MOJAVE
TERRESTRIAL BIOLOGY (Continued)			
	Adverse Impacts to Species of Special Concern		
	San Joaquin Kit Fox	X	X
	Tehachapi Slender Salamander	X	X
	Blister Beetles	X	X
	Tehachapi Pocket Mouse	X	X
c. Grazing	Impacts to Federal Allotments		
	Significant Impacts	-	-
	Minor Adverse Impacts	X	X
8. SOCIOECONOMICS	(Included in Great Valley Physiographic Province)		
9. LAND OWNERSHIP/USE (Included in Great Valley Physiographic Province)			
10. VISUAL RESOURCES	Visual Impacts (Miles)		
	High	-	-
	Moderate	1.0	1.0
	Low	-	-

CUMULATIVE IMPACTS (Continued)

ENVIRONMENTAL COMPONENT	TYPE OF IMPACT	WYCAL	MOJAVE	KERN RIVER
GREAT VALLEY (SAN JOAQUIN VALLEY):				
1. AIR QUALITY				
a. Construction Impacts (Kern County)				
	Project Increment (ug/m3)			
	CO (1-hr)	961	961	961
	CO (8-hr)	625	625	625
	NO2 (1-hr)	422	422	422
	SO2 (1-hr)	152	152	152
	SO2 (3-hr)	110	110	110
	SO2 (24-hr)	39	39	39
	TSP (24-hr)	746	746	746
	PM-10 (24-hr)	485	485	485
b. Operational Impacts		NSI	NSI	NSI
2. GEOLOGY	Presence of Significant Geological Hazards			
	Liquefaction/ Ground Failure	X	X	X
	Surface Fault Rupture	X	X	X
	Slope Instability	X	X	X
	Ground Subsidence	X	X	X
	Flash Flooding	X	X	X
	Avalanche	-	-	-
3. SOILS	Water Erosion Potential (miles)			
	Low	92.0	92.0	72.1
	Medium	14.0	14.0	7.8
	High	8.0	8.0	3.1
	Wind Erosion Potential (miles)			
	Low	33.0	33.0	27.0
	Medium	74.0	74.0	53.0
	High	7.0	7.0	4.0
	Reclamation Potential (miles)			
	Good	90.0	90.0	63.1
	Fair	14.0	14.0	13.1
	Poor	10.0	10.0	7.8
4. SURFACE WATER	Stream Crossings and Affected Streams			
	Perennial	2	2	1
	Intermittent (including canals)	16	16	16
5. GROUNDWATER	Miles of Potential Impact			
	High	0	0	2
	Medium	0	0	0
	Low	110	110	76.9
6. FRESHWATER BIOLOGY	Stream Crossings with Significant Impacts			
	Sedimentation	1	0	0
	Sensitive Species	0	0	0

CUMULATIVE IMPACTS (Continued)

ENVIRONMENTAL COMPONENT	TYPE OF IMPACT	WYCAL	MOJAVE	KERN RIVER
7. TERRESTRIAL BIOLOGY				
a. Vegetation	Demuded Acres by Vegetation Type			
	Agricultural Land	655.1	647.3	363.1
	Valley and Foothill Grassland	667.1	688.3	654.0
	Wetland/Riparian	46.2	46.2	13.1
	Total	1,368.4	1,381.7	1,030.2
b. Wildlife	Adverse Impacts to General Wildlife			
	Wintering Big Game	-	-	-
	Migrating Big Game	-	-	-
	Calving/Fawning Big Game	-	-	-
	Nesting/Breeding Sage Grouse	-	-	-
	Upland Game Bird Critical Habitat	-	-	-
	Nesting/Brooding Waterfowl	-	-	-
	Nesting Raptors	-	-	-
	Adverse Impacts to Species of Special Concern			
	Blunt-Nosed Leopard Lizard	X	X	X
	San Joaquin Kit Fox	X	X	X
	Giant Kangaroo Rat	X	X	X
	Short-Nosed Kangaroo Rat	X	X	X
	Tipton Kangaroo Rat	X	X	X
	Nelson's Antelope Squirrel	X	X	X
	San Joaquin Pocket Mouse	X	X	X
c. Grazing	Impacts to Federal Allotments			
	Significant Impacts	-	-	-
	Minor Adverse Impacts	X	X	X
8. SOCIOECONOMICS	(Includes Tehachapi Mountains Data)			
a. Population	Inmigrant Population			
	Total	353	341	353
b. Employment	Construction Personnel Required			
	Local	132	127	132
	Non-Local	271	262	271
c. Income	Local Expenditures by Construction Personnel and Contractors (in millions of dollars)	8.6	8.2	6.6
d. Housing	Housing Demand by Inmigrants			
	Hotel/Motels	117	113	117
	Rental Units	76	73	76
	R/V Campers	73	71	73

CUMULATIVE IMPACTS (Continued)

ENVIRONMENTAL COMPONENT	TYPE OF IMPACT	WYCAL	MOJAVE	KERN RIVER
SOCIOECONOMICS (Continued)				
e. Tax Base	Estimated Taxable Value of Pipeline and Facilities (in millions of dollars)	81.7	112.8	78.8
f. Traffic	Temporary Delays to Vehicular Traffic	X	X	X
g. Noise	Noise in Excess of 55 dBA			
	Temporary	X	X	X
	Permanent	-	-	-
h. Recreation	Impacts to Developed Facilities			
	Short-term	X	X	X
	Long-term	-	-	-
	Impacts to Dispersed Recreational Activities			
	Short-term	X	X	X
	Long-term	-	-	-
9. LAND OWNERSHIP/USE	(Includes Tehachapi Mountains Data)			
a. Ownership	Acres Disturbed			
	Private	1,883.5	1,883.5	1,809.7
	BLM	132.1	132.1	44.8
	State	2.4	2.4	-
	Forest Service	-	-	-
	DOD	163.6	163.6	37.5
	NWR	-	-	-
a. Use	Acres Disturbed			
	Grazing/Rangeland	1,066.5	1,066.5	1,061.8
	Timber/Forest	-	-	-
	Agriculture	775.7	775.7	648.5
	Residential	169.7	169.7	145.4
	Commercial/Industrial	-	-	-
	Other	169.7	169.7	-
10. VISUAL RESOURCES	Visual Impacts (Miles)			
	High	-	-	-
	Moderate	-	-	-
	Low	-	-	-

---

* NSI = No Significant Impacts

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that I have this day served the foregoing document upon each person designated on the official service lists compiled by the Presiding Administrative Law Judge in the proceedings at Docket No. CP87-479-000 and at Docket Nos. CP85-437-000 _et al_., in the manner required by the Presiding Administrative Law Judge's August 7, 1986 Order in Docket Nos. CP85-437-000 _et al_.

DATED at Washington, D.C. this 12th day of September, 1988.

G. Mark Cook
1899 L St., N.W., Suite 501
Washington, D.C. 20036
Tel: (202) 659-4303

Intervenor Comments

INTERVENORS

		Pages
IN1	Pacific Gas and Electric Company	IN-1 to IN-38
IN2	Southern California Gas Company	IN-39 to IN-104
IN3	United States Borax and Chemical Corporation, c/o Luce, Forward, Hamilton and Scripps	IN-105 to IN-120

Pacific Gas and Electric Company

77 Beale Street
San Francisco, CA
415/972 2959
Telecopier 415 543 7813
Mailing address
PO Box 7442
San Francisco, CA 94120

Steven F Greenwald
Attorney at Law

REC'D
SEP 12 1988
UJS

[Pacific Gas and Electric Company]

September 9, 1988

Lois D. Cashell, Acting Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, D.C. 20426

Re: Wyoming-California Pipeline Company
(Docket Nos. CP87-479-000 and CP87-480-000);
Mojave Pipeline Company, et al.
(Docket Nos. CP85-437-000, et al.);
Kern River Gas Transmission Company, et al.
(Docket Nos. CP85-552-000, et al. -
Comments on Draft Supplement to FEIS

Dear Ms. Cashell:

Enclosed are an original and 14 copies of "Comments of Intervenor Pacific Gas and Electric Company on the Draft Supplement to the Final Environmental Impact Statement" for filing in the above-referenced proceedings.

Please file stamp the extra copy of this letter and return it in the enclosed envelope.

Very truly yours,

S F Greenwald

STEVEN F. GREENWALD

SFG/syw

cc: ✓Mr. Robert K. Arvedlund
Ms. Mary Griggs
Mr. Bill Haigh
All Parties

Enclosure

88 SEP 12 AM 8:45

UNITED STATES OF AMERICA

FEDERAL ENERGY REGULATORY COMMISSION

Wyoming-California Pipeline Company	)	Docket Nos. CP87-479-000 and CP87-480-000
Mojave Pipeline Company, *et al.*	)	Docket Nos. CP85-437-000, *et al.*
Kern River Gas Transmission Company, *et al.*	)	Docket Nos. CP85-552-000, *et al.*

COMMENTS OF INTERVENOR PACIFIC GAS AND ELECTRIC COMPANY ON THE DRAFT SUPPLEMENT TO THE FINAL ENVIRONMENTAL IMPACT STATEMENT

JOSHUA BAR-LEV
STEVEN F. GREENWALD

Law Department
PACIFIC GAS AND ELECTRIC COMPANY
77 Beale Street
San Francisco, California 94106
Telephone: (415) 972-2959

Attorneys for
PACIFIC GAS AND ELECTRIC COMPANY

September 9, 1988

TABLE OF CONTENTS

Page

I GENERAL COMMENTS 1

GENERAL COMMENT NO. 1:

The Draft Supplement impermissibly exceeds the scope of the Notice and its own stated purposes 1

GENERAL COMMENT NO. 2:

The environmental consequences of WyCal are different and greater than simply summing the environmental impacts of Kern River and Mojave 5

GENERAL COMMENT NO. 3:

WyCal's OEC obligation to serve all customers differentiates it further from Mojave and Kern River and these differences should have been specifically addressed by the Draft Supplement 6

II SPECIFIC COMMENTS 7

SPECIFIC COMMENT NO. 1:

p. s-1 -- The environmental enhancements of replacing oil with gas in EOR operations has neither been limited nor deferred by the absence of an interstate pipeline 7

SPECIFIC COMMENT NO. 2:

p. 1-3 -- The "three basic flaws" identified for intrastate service neither accurately nor completely reflect the Phase I record 8

SPECIFIC COMMENT NO. 3:

p. 1-5 -- The intrastate utilities have provided substantial evidence of executed, long-term service agreements with EOR shippers and approval of such contracts by the CPUC 12

SPECIFIC COMMENT NO. 4:

p. 2-1 -- The delivery capability of WyCal examined in the Draft Supplement is less than the design capacity the Commission assumed for WyCal 15

Table Of Contents (continued)

Page

SPECIFIC COMMENT NO. 5:

p. 1-33 -- The Draft Supplement errs in suggesting that the environmental impact of all alternatives for facilities related to oil field development will be equal 15

SPECIFIC COMMENT NO. 6:

p. 2-17 -- The cost estimates for the Bountiful Peak alternative are not adequately supported 17

SPECIFIC COMMENT NO. 7:

p. 4-79 -- The obligation for WyCal to serve non-EOR customers increases the possibility that more than one interstate pipeline will be built and thereby warrants a more comprehensive cumulative impacts study 17

SPECIFIC COMMENT NO. 8:

Volume III Supplement, p. 2-1 -- Neither the Mojave Transfer Line nor additional compression is needed for the Intrastate Alternatives 18

SPECIFIC COMMENT NO. 9:

Volume III Supplement, p. 3-1, Para. 3 -- The Draft Supplement incorrectly implies that looping of existing pipelines would cause "increased" impacts 21

SPECIFIC COMMENT NO. 10:

Volume III Supplement, p. 3-7, Mitigation Measure No. 155 -- Mitigation Measure No. 155 is unlawful, discriminatory, and cannot adequately mitigate against the probability that growth of the EOR market will not justify a 700-mile pipeline in 1990 22

CONCLUSION 25

UNITED STATES OF AMERICA

FEDERAL ENERGY REGULATORY COMMISSION

Wyoming-California Pipeline Company	)	Docket Nos. CP87-479-000 and CP87-480-000
Mojave Pipeline Company, *et al*.	)	Docket Nos. CP85-437-000, *et al*.
Kern River Gas Transmission Company, *et al*.	)	Docket Nos. CP85-552-000, *et al*.

COMMENTS OF INTERVENOR PACIFIC GAS AND ELECTRIC COMPANY ON THE DRAFT SUPPLEMENT TO THE FINAL ENVIRONMENTAL IMPACT STATEMENT

Pursuant to the Notice of the Acting Secretary, dated July 25, 1988, (Notice) Intervenor Pacific Gas and Electric Company (PG&E) provides its comments on the Draft Supplement to the Final Environmental Impact Statement (Draft Supplement).

PG&E's Comments will be delineated between General Comments applicable to the entire Draft Supplement and Specific Comments directed at particular referenced portions of the Draft Supplement.

I

GENERAL COMMENTS

GENERAL COMMENT NO. 1:

The Draft Supplement impermissibly exceeds the scope of the Notice and its own stated purposes.

The Notice explicitly stresses the most limited scope of permissible comments to the Draft Supplement:

> The scope of the comments must be limited to issues discussed in the Draft Supplement. Comments on issues covered in the [FEIS] published in December 1987, will not be addressed in the Final Supplement, i.e., the comment period for old issues is closed. (Notice, pp. 3-4, emphasis in the original).

The Notice emphasizes the intended limited scope of the Draft Supplement:

> The Draft Supplement issued pursuant to this [N]otice only addresses those areas of the WyCal project which deviate from the Mojave and Kern River proposals and the East Las Vegas route alternative previously analyzed in the FEIS. (Notice, p. 3, emphasis added).

The Draft Supplement is even more emphatic in circumscribing its narrow purpose and scope:

> THE [DRAFT] SUPPLEMENT WILL ONLY ADDRESS THOSE AREAS OF THE WYCAL PROJECT WHICH DEVIATE FROM THE KERN RIVER AND MOJAVE PROPOSALS AND THE EAST LAS VEGAS SYSTEM ALTERNATIVE PREVIOUSLY ANALYZED . . .
>
> THE STAFF DOES NOT INTEND TO ALLOW THIS [DRAFT] SUPPLEMENT TO RESURRECT OLD ISSUES NOR ENTERTAIN COMMENTS ON OLD ISSUES. THE COMMENT PERIOD FOR OLD ISSUES IS CLOSED.
>
> IT SHOULD BE EMPHASIZED THAT THE FOCUS OF THIS SUPPLEMENT IS LIMITED TO THE DIFFERENCES BETWEEN THE WYCAL PROPOSAL AND THE KERN RIVER/MOJAVE PROPOSALS. (Vol. VI, pp. 1-7, 1-9). (Capitalization in the original, emphasis added.)

Thus, the rules are clear. The Staff is not allowed to rehabilitate deficiencies (real or imagined) in the FEIS. In return, commentors are not allowed to raise new issues regarding the FEIS nor reargue old FEIS issues.

However, despite its underlining and its emphasizing the rules in bold-faced letters, the Draft Supplement, in fact, "RESURRECTS OLD ISSUES."

In particular, the Staff has used the opportunity afforded by a Draft Supplement to respond to comments to the FEIS made by the Environmental Protection Agency (EPA):

> "Although the FEIR/S is being supplemented for another purpose (i.e., the WyCal project), the staff will take this opportunity to respond to each comment [by the EPA] in an open and public forum, i.e., this Supplement." (Draft Supplement, p. 1-32). 1/

IN1-1 The responses to the EPA (pp. 1-3 - 1-6; 1-32 - 1-37) should be stricken from the final Supplement. The comments are unquestionably beyond the scope of the Draft Supplement.

Further, use of the Draft Supplement to respond to the EPA is unfair. The EPA made essentially the same comments on the DEIS (CS-25, Vol. V, FA-79 - FA-87) as it did on the FEIS (CA-39). The Staff thus had full opportunity to address the EPA's concerns in the FEIS. It is unfair to use the Draft Supplement to provide Staff another "bite at the apple" to respond to the EPA. It is also unfair to select certain "evidence" from the Phase I record for inclusion in the Draft Supplement, and ignore other relevant evidence.

1/ The Draft Supplement reiterates that:

> Some additional information however, is presented below in response to conversations and correspondence with Environmental Protection Agency (EPA) staff that issues of gas supply and firmness of service are relevant and important in determining the preferred alternative in the FEIR/S and that such information would greatly enhance the ability of the general public and regulatory/resource agencies to understand and evaluate the merits of various alternatives. (Draft Supplement, p. 1-3).

IN1-1 Inasmuch as the California parties (namely SoCal, PG&E, and the CPUC) have steadfastly tried to use the EPA letter to discredit the FEIR/S as being "inadequate", it is certainly fair for staff to defend its position that the FEIR/S is adequate in an open and public forum. PG&E's position appears to be that it is fair for them to "bite" at staff using the EPA letter but staff cannot answer the accusation. EPA's concerns (and our responses) will remain in the Final Supplement. EPA has also provided comments on the Draft Supplement which staff has reproduced in the Final Supplement and responded to. Also see staff's response later in this letter to IN1-6.

IN1-1 (cont.) Compounding the inappropriateness is that the "evidence" with which the Draft Supplement responds to the EPA often is taken out of context, misleading, and not reflective of the record. Some of these points will be demonstrated in the Specific Comments which are set forth below. However, one such piece of "evidence" warrants immediate comment.

IN1-2 The Draft Supplement discusses, quotes from, and relies upon the California Energy Outlook issued by the California Energy Commission (CEC) in July 1987. (Draft Supplement, p. 1-4). Reliance on this document is particularly inappropriate. Most significantly, after extensive oral debate (Tr. 10987-91) and briefing, the Presiding Administrative Law Judge ruled that the CEC document could not be admitted into evidence for the substantive truth of the matters set forth therein. The specific portion of the tainted CEC document which the Draft Supplement relies upon was particularly discussed in these rulings. 2/ (Benkin, Tr. 11076-77; Presiding Administrative Law Judge's Order Denying Motion For Official Notice (March 31, 1988)).

Escalating the unfairness of the Draft Supplement's reliance on the CEC document is that the Commission's August 2 Order 3/ has deprived the parties the opportunity to obtain discovery relating to, or

---

2/ The Draft Supplement emphasizes that the CEC report "specifically recommends that 'market forces' should be allowed to determine whether an interstate pipeline be built to serve [TEOR] customers." (p. 1-4). This very conclusion was the primary purpose for which the CEC document was sought to be introduced into the Phase I proceedings. (See March 31 ALJ Order, p. 1).

3/ Mojave Pipeline Co., Order Vacating In Part Prior Order and Establishing Procedural Schedule (August 2, 1988).

IN1-2 The report is a state document. The EPA has consistently urged the FERC to present all facets of the need for these projects. The report was cited as evidence of a wide divergence of opinion. Just because PG&E disagrees with the report is no excuse for hiding it.

IN1-2 (cont.) cross-examine on, the adequacy and contents of the CEC document. 4/ Prior opportunities to explore the basis of such CEC generated "findings" have typically allowed the cross-examiner to establish that the supposed finding was at best a naked conclusion devoid of economic, engineering or other analytical support (See Carpenter, Tr. 8693-8700; See particularly Benkin, Tr. 8699) or often inconsistent with the evidence presented by knowledgeable witnesses. 5/

GENERAL COMMENT NO. 2:

IN1-3 The environmental consequences of WyCal are different and greater than simply summing the environmental impacts of Kern River and Mojave.

The Draft Supplement's implied finding that the environmental acceptability (assuming applicable mitigation measures) of the Kern River and Mojave portions of the WyCal route automatically apply to the WyCal proposal is without foundation or substance.

Given the generic and specific differences between the projects, it is misleading simply to sum the environmental impacts of Kern River and Mojave to derive the total of WyCal's environmental impacts. For instance, the Draft Supplement evaluates WyCal assuming

---

4/ Kern River has appropriately argued that the unexplained denial by the Commission in its August 2 Order of an evidentiary hearing on the Draft Supplement "violates court and Commission precedents, the Commission's own regulations, and the parties' rights to a hearing on material issues of fact." (Request of Kern River Gas Transmission Company For Rehearing [of August 2 Order], September 1, 1988, pp. 15-16).

5/ For instance, while admitting a portion of a CEC document in Phase I, the Presiding Administrative Law Judge stated that it specifically could not be cited "for the [substantive] proposition that the TEOR producers require steam 24 hours a day." (Benkin, Tr. 11938; See Tr. 11934-38).

IN1-3 The WyCal route, other than the deviations addressed in the Draft Supplement, is the identical routes/ROW's proposed by Kern River and Mojave. Thus, summarizing the identical parts is certainly permissible. Irrespective of what Kern River and Mojave have agreed to do, the analysis in the FEIR/S and Draft Supplement is based on a 100-foot ROW, i.e., the analysis is conservative.

IN1-3 (cont.) use of a 75-foot right-of-way (ROW) which Kern River and Mojave agreed to use. Yet WyCal's initial (Item by Ref. WC-A) and continuing position is that it will use a 100-foot ROW. (Gilman, Tr. 13170). Thus, the impacts of WyCal with respect to the ROW are necessarily understated.

GENERAL COMMENT NO. 3:

IN1-4 WyCal's OEC obligation to serve all customers differentiates it further from Mojave and Kern River and these differences should have been specifically addressed by the Draft Supplement.

The Draft Supplement implies that WyCal is designed, as is Mojave and Kern River, exclusively to serve the Kern County EOR/cogeneration market. This implication wrongfully assumes that WyCal is a similar, single-purpose pipeline. Such an implication is inconsistent with WyCal's certificate request to be an open-access, non-discriminatory transporter as required by the Optional Expedited Certificate (OEC) process.

WyCal's supposed intentions to serve non-EOR customers also differentiates it from Kern River and Mojave. Absent any certificate request to serve non-EOR customers, the FEIS properly declined to evaluate the environmental impacts of service to non-EOR customers. In contrast, WyCal seeks to serve, and, in fact, by definition, should be required to serve, non-EOR customers. Accordingly, if indeed WyCal is to be allowed (or obligated) to serve non-EOR customers, the Draft Supplement is required to examine the environmental consequences of such expanded service.

Thus, the premise of the Draft Supplement that the sum of Kern River and Mojave equals WyCal's environmental impacts is erroneous and necessarily understates the latter's environmental consequences.

IN1-4 The Draft Supplement pointed out this difference on pages 1-6 and 1-7. Unknown information such as specific delivery points to EOR (or non-EOR) parties was previously addressed in the FEIR/S and on pages 1-33 and 1-34 of the Draft Supplement.

II

SPECIFIC COMMENTS

SPECIFIC COMMENT NO. 1:

p. s-1 -- The environmental enhancements of replacing oil with gas in EOR operations has neither been limited nor deferred by the absence of an interstate pipeline.

IN1-5 The Draft Supplement states: "[EOR] producers currently use crude oil and a limited amount of gas for steam generation." (emphasis added). It adds that the interstate projects would allow "substitution" of natural gas for crude oil now used and may enable new production by EOR producers which "presently cannot get authority to burn oil due to air pollution restrictions."

These statements err in numerous respects. First, the amount of natural gas presently being burned for Kern County EOR operations is not "limited." PG&E has served EOR customers as much as 100 MMcf/d within its portion of the Kern County EOR market. PG&E believes that SoCal Gas has delivered substantially greater loads to EOR customers within its service territory. Moreover, as set forth in Specific Comment No. 3, *infra*, pp. 12-14, PG&E and SoCal Gas have each executed numerous long-term contracts to serve substantially more EOR load in the future. Thus, in no sense can the extent of intrastate service be belittled as "limited."

Second, the Draft Supplement errs by suggesting that only gas delivered by the proposed "interstate" pipelines are capable of displacing oil for EOR operations. On the contrary, and as demonstrated in the preceding paragraph, natural gas delivered on the existing intrastate facilities is capable of displacing oil in EOR operations,

IN1-5 No such inferences are in the Draft Supplement.

IN1-5 (cont.)

and has, in fact, already displaced oil burns to a substantial degree. Thus, the Draft Supplement's inference that the interstate projects are uniquely capable of displacing oil is misleading and incorrect.

Third, the inferred notion that only an interstate project will allow "entry" by an EOR producer not presently able to obtain authority to burn oil is simply not factually based. PG&E is aware of no EOR operator whose production has been deferred due to the combination of events hypothesized -- an inability to burn oil; some unspecified dissatisfaction with intrastate natural gas service; and the absence of an interstate pipeline.

The reasons for deferral and/or possible cancellation of EOR steaming and cogeneration projects have been overwhelmingly related to project economics -- specifically the cost of oil. Other reasons for project deferrals are the inability to obtain state or local permits to proceed. For instance, the Mobil Belridge project which would have a natural gas demand of approximately 70 MMcf/d has been unable to obtain certificate authority from the CEC for several years. (Gibson, PG-1, pp. 37-38; PG-1M). Further, an additional Kern County EOR project has been indefinitely deferred due to an inability to obtain the requisite approvals from the municipal authorities. (Tindall, Tr. 6468-70).

SPECIFIC COMMENT NO. 2:

p. 1-3 -- The "three basic flaws" identified for intrastate service neither accurately nor completely reflect the Phase I record.

The Draft Supplement lists "three basic flaws" of intrastate service and represents that such flaws were developed as part of the "substantial record presented in the Phase I hearing regarding project

IN1-6 need and firmness of service." These supposed "flaws" are: 1) low priority of service; 2) short-term nature of existing rates (i.e. "rates are subject to month-to-month change"); and 3) the fact that rate offerings are only "marginally competitive."

The "flaws" of intrastate service identified by the Draft Supplement do not fairly represent the Phase I testimony and are either out-of-date or not true. Conspicuously, the Draft Supplement does not provide citiations as to where the EOR producers allegedly made these statements. For purposes of presently commenting, PG&E can only assume that the Draft Supplement's chorus of intrastate flaws was derived from Texaco witness Brown's Phase I prefiled testimony. (TX-2, pp. 3-4).

Mr. Brown's comments do not sustain the Draft Supplement's designation of three intrastate "flaws." First, these comments by Mr. Brown do not address the present CPUC regulatory framework, but rather the California gas industry structure predating the CPUC decisions in December 1985, 1986 and 1987 restructuring the California natural gas industry. (See Brown, TX-2, pp. 3-9). (CA-10, Dec. 86-12-009; CA-11, Dec. 86-12-010; CA-29, Dec. 87-12-039). Moreover, Mr. Brown's criticisms of the then available intrastate service offerings were directed at the "CPUC regulated TEOR rate schedules" -- i.e. sales service, not transportation service. (See TX-2, p. 3).

Second, the requisite objective and comprehensive view of the Phase I record would demonstrate that the supposed "flaws" the Draft Supplement identifies do not exist, or are equally prevalent in the interstate alternatives. With respect to priority of service, on the intrastate systems EOR/Cogeneration customers have always enjoyed the

IN1-6 This comment, along with PG&E's comment IN1-1, is designed to mold the environmental document into precisely the shape which PG&E (and the other California parties) desire, i.e., inadequacy. As stated in our response to IN1-1, the California parties have steadfastly tried to use the EPA letter to discredit the FEIR/S as being inadequate because the EPA feels that issues of project need, gas supply, and firmness of service should be addressed more in the FEIR/S. The staff therefore responded to EPA's criticisms by presenting more information on these Phase I issues in the Draft Supplement and summarizing the various divergence of opinions, including those opinions not shared by the California parties. Now, PG&E suggests to remove the EPA letter from the public scrutiny, remove the reference to the California Energy Commission Biennial report with which PG&E disagrees, remove the information which the EOR operators have alleged are flaws in the present distribution system, and finally remove all references to the Phase I record from the EIS. Needless to say, if staff did this, the Final Supplement would be classified by EPA as being Category 3-Inadequate and the California parties would support it. PG&E cannot have it both ways. The information in the Draft Supplement stands. It reflects the divergence of opinions and allegations that have evolved over the last three years in these proceedings. If anything, PG&E's reaction to the Phase I information presented in the Draft Supplement highlights the level of controversy that has existed, but PG&E only wants the reader to hear their side of the controversy. The fact remains that none of the opinions/allegations will be truly proven or disproven until an Initial Decision by the Administrative Law Judge or a Commission Decision decides the issues.

IN1-6 (cont.) high cogeneraton 3B priority. As sales customers, EOR steaming producers were initially the lowest priority (P-6) on the PG&E system.

However, in a series of actions, the CPUC has raised the standing of the EOR steam operators in the priority queue. First, in December 1986, the CPUC elevated such customers to a priority equivalent to UEG customers. (Gibson, PG-1, p. 32). Second, in Resolution G-2819, and on at least an interim basis, the CPUC has advanced the priority of EOR steaming customers ahead of the utilities' UEG loads.

With respect to the Draft Supplement's subsidiary assertion that any curtailment of EOR customers by the utilities would be done "with little or no notice," PG&E is aware of no evidentiary support. Moreover, the Phase I evidence on this subject is just the contrary. As explained by PG&E witness Gibson:

> I stress we do not assume any such need to curtail. However, assuming a curtailment, we would seek to minimize the possibility of damage to the EOR operator in several respects. First, we would provide as much advance notice of the curtailment as possible to allow the producer to utilize as many options as possible to respond.
>
> Second, in negotiating contracts, we would attempt to maximize the probability that in the event of a curtailment, each EOR customer would continue to receive at least the minimum level of gas which would best guard against equipment or reservoir damage. (PG-1, pp. 31-32).

The Draft Supplement's second intrastate service "flaw" reference -- the supposed short-term nature of utility rates -- also appears to be based on a misreading of Mr. Brown's testimony. (TX-2, p. 6, 11:2-13). Again, Mr. Brown then is discussing prior practices regarding gas sales, as opposed to the transportation, of natural gas.

IN1-6
(cont.)

Moreover, it is hard to reconcile any notion of "rates [being] subject to month-to-month change" with the 15-year fixed rate EOR transportation contracts as PG&E has offered, has executed, has had approved by the CPUC, and under which it is providing gas service. (See the 15-year PG&E-EOR service agreements set forth in KR-112, KR-113 and KR-114.) Indeed, PG&E is not aware of the slightest suggestion anywhere in the Phase I record (by Mr. Brown or anyone else) that its transportation rates for EOR customers or anyone else will be subject to "month-to-month" change. 6/

The assertion that utility transportation rates are "only marginally competitive" is equally unsupported, particularly with respect to any comparison with the interstate proposals. Once again, Mr. Brown is discussing CPUC tariffs regulating sales of gas, and not transportation rates established by through negotiations. (TX-2, p. 3).

Moreover, the suggestion that intrastate transportation rates are only "marginally competitive" is equally unsupported, particularly when compared to the interstate proposals. PG&E has executed long-term contracts with volumetric rates of 37 cents, and most limited fixed charges (KR-112, KR-113, KR-114, p. 3). Even under its most optimistic scenario (i.e. 600 MMcf/d capacity, 95 percent throughput, full benefit of the extinguished Investment Tax Credit, and the most optimistic

---

6/ The Draft Supplement must be confusing the intrastate fixed rate services offerings with Mojave's rate proposal. Its so-called Monthly Fixed Charge will, in fact, be subject to month-to-month fluctuations as its actually incurred expenses deviate from those forecasted. (See Workman, Tr. 1841; Rogers, Tr. 3948).

IN1-6 (cont.) capital cost assumptions) Mojave's total rate would be just a fraction less and importantly comprised mainly of fixed costs. 7/

It is unfair for the Draft Supplement to claim that issues of need and firmness of service are addressed in Phase I and then select just isolated and out-of-context portions of that record for inclusion in the Draft Supplement. All references to the Phase I record should be deleted or a balanced presentation should be provided.

SPECIFIC COMMENT NO. 3:

IN1-7 p. 1-5 -- The intrastate utilities have provided substantial evidence of executed, long-term service agreements with EOR shippers and approval of such contracts by the CPUC.

The Draft Supplement states:

> "It was the opinion of the [Commission] staff witness in Phase I . . . (c) that the intrastate utilities have not yet provided any contractual evidence or state regulatory approvals for firm long-term service . . ." (Draft Supplement, p. 1-5 (emphasis added)).

Staff witness Foley submitted the referenced pre-filed testimony in March 1987. Long ago this testimony became substantially outdated. It serves no appropriate purpose for the Draft Supplement to repeat as if still true such obsolete, and by now grossly misleading information.

PG&E has entered into the following long-term contracts to serve EOR customers over 100 MMcf/d, and all but one has been approved by the CPUC:

7/ The optimistically-stated interstate rates are even less competitive with the 22 and 28 cent volumetric rates agreed upon between SoCal Gas and Shell Western. (CA-40, pp. 2-3).

IN1-7 The information presented here is the subject matter of Phase I hearings.

IN1-7 (cont.)

Customer	Capacity (MMcf/d)	Term (years)	CPUC Resolution No. Approving Contract
Mt. Poso Cogeneration	6.72	15	Pending, Advice No. 1478-G
High Sierra Limited	12.50	15	G-2765/Dec. 17, 1987
Double "C" Limited	12.50	15	G-2765/Dec. 17, 1987
Kern Front Limited 8/	12.50	15	G-2765/Dec. 17, 1987
Badger Creek Limited	12.50	15	G-2807/Aug. 24, 1988
Bear Mountain Limited	12.50	15	G-2807/Aug. 24, 1988
Granite Road Limited	12.50	15	G-2807/Aug. 24, 1988
Kern Bluff Limited	12.50	15	G-2807/Aug. 24, 1988
Live Oak Limited	12.50	15	G-2807/Aug. 24, 1988 9/
Totals	106.72		

Similarly, SoCal Gas has executed agreements and obtained CPUC approval for approximately 600 MMcf/d in long-term EOR service contracts: 10/

8/ The High Sierra, Double "C", and Kern Front contracts are KR-112, KR-113, and KR-114, respectively.

9/ CPUC Resolution Nos. G-2765 and G-2807 are attached hereto as Exhibits A and B, respectively, and incorporated herein. PG&E requests that they each be made formally part of its comments.

10/ The information set forth about SoCal Gas PG&E gleaned entirely from a relatively cursory review of the public record. Accordingly, PG&E's list may very well not include all SoCal Gas long-term arrangements. PG&E's list specifically does not include any SoCal Gas short-term (less than 5 year) contracts as these need not be made public.

IN1-7 (cont.)

Customer	Capacity (MMcf/d)	Term (years)	CPUC Resolution No. Approving Contract
Berry	16.20	10	G-2722/April 22, 1987
Energy Reserve	1.80-17.00	23	G-2747/Sept. 23, 1987
Harbor	24.00	15	G-2770/Jan. 28, 1988
SWEPI (Shell)	175-250	20	G-2793/June 17, 1988
Midway-Sunset	68.00	20	G-2790/May 25, 1988
Caterpillar Capital	6.00	12	G-2786/April 27, 1988 11/
Midsun Partners	5.78	15	G-2802/Aug. 24, 1988
AES Placerita	25.85	20	Pending - Advice No. 1800
Tenneco	19.80	5	Pending - Advice No. 1806
Chalk Cliff	12.50	15	Pending - Advice No. 1809
McKittrick Ltd.	12.50	15	Pending - Advice No. 1810
Texaco	170.00	10	Dec. 85-12-105 12/
Totals	537.43-627.63		

In addition, PG&E has entered into several short-term EOR agreements for gas service at Kern River, Coalinga and San Ardo. The facilities served under these agreements can use in the aggregate approximately 125 MMcf/d.

In light of the substantial and more recent events, no plausible nor fair reason can be discerned for the Draft Supplement to reference the obsolete March 1987 testimony of staff witness Foley. It should be deleted and its inference that the absence of contracts means that the Intrastate Alternatives cannot serve the market be rejected.

11/ The CPUC resolutions approving the SoCal Gas -- SWEPI, Caterpillar, and Midway-Sunset contracts are CA-40, CA-41, and CA-42, respectively.

12/ PG&E's source for capacity limit of the Texaco-SoCal Gas arrangement is SG-28, pp. 4-5.

IN1-8 SPECIFIC COMMENT NO. 4:

p. 2-1 -- The delivery capability of WyCal examined in the Draft Supplement is less than the design capacity the Commission assumed for WyCal.

The Draft Supplement's environmental analysis is premised on the assumption that the WyCal pipeline will have a delivery capability to Bakersfield of up to 650 MMcf/d.

The Declaratory Order on Non-Environmental Issues 13/ finds that WyCal has an "actual design capacity" (44 FERC at 61,009) of 730 MMcf/d at least for purposes of "establishing projected units of service and fixing WyCal's initial rates."

Accordingly, the final Supplement should be expanded to include an examination of the environmental impacts of WyCal as a 730 MMcf/d carrier.

SPECIFIC COMMENT NO. 5:

IN1-9 p. 1-33 -- The Draft Supplement errs in suggesting that the environmental impact of all alternatives for facilities related to oil field development will be equal.

In responding to EPA's comments, the Draft Supplement states that for facilities related to oil field development, such as "gathering lines, delivery lines, and access roads":

> Staff agrees that such facilities, whatever they are, will be needed by all of the proposals and alternatives, including the intrastate alternatives. In that respect, the impacts, although unknown or at least non-specific, can be assumed to be equal for comparison purposes. (p. 1-33, (emphasis added)).

13/ Wyoming-California Pipeline Co., 44 FERC ¶ 61,001 (1988).

IN1-8 WyCal's application is for 650 MMcfd.

IN1-9 There is no information in the record by PG&E, SoCal, or the CPUC that such facilities will not be required by the intrastate alternative. Like the interstate proposals, until both supply and delivery contracts are signed by the intrastate utilities, the extent of those facilities will remain unknown.

IN1-9 (cont.)

This conclusion erroneously finds that the Intrastate Alternatives will require the construction of "delivery lines" and other related facilities with environmental consequences equal to the construction required by the applicants. There is no basis for such assertion. It is contrary to the evidence.

The assertion again appears to overlook the fact that the intrastate utilities have been and are serving EOR customers in Kern County with existing facilities. At least with respect to this already-served load, it is abundantly clear that by definition the environmental impact, if any, of the Intrastate Alternatives will be less than the interstate alternatives. As the existing intrastate infrastructure can already serve that level of load, there is no need for additional facilities and thus no environmental impact.

The Draft Supplement further assumed that to serve EOR customers incremental to present service levels, the Intrastate Alternatives will necessarily require construction of additional facilities. This conclusion assumes that the existing distribution-related facilities within Kern County have no excess capacity. It further assumes that to the extent such existing facilities are capacity constrained by the EOR load currently being served, the intrastate utilities have no option, but necessarily to build new stand-alone facilities (as will obviously be required by each interstate alternative). There is simply no basis for these assumptions.

In fact, in its DEIS Comments, PG&E presented evidence exactly to the contrary:

IN1-9 (cont.) Thus, in summary, the existing intrastate systems already have both major and minor transmission lines and distribution facilities in place that are far more extensive than the proposed Taft and Kern River Laterals. Mojave's comment that the final EIS include an analysis of an additional 75 miles of delivery laterals for the Intrastate Alternatives is unfounded and should therefore be rejected. (CS-25, Vol. V, p. IN-27).

Significantly, the FEIS specifically "accepted" PG&E's comments regarding the environmental advantages of the Intrastate Alternatives over the interstate alternatives with respect to Kern County delivery facilities. (Id.) There is no basis for the Draft Supplement to alter that position, especially when its avowed purpose is limited to looking at the environmental impacts of the upstream (i.e., non-California) portions of the WyCal route. (See e.g. Draft Supplement, p. 1-9).

SPECIFIC COMMENT NO. 6:

IN1-10 p. 2-17 -- The cost estimates for the Bountiful Peak alternative are not adequately supported.

The Draft Supplement states that WyCal has estimated that the use of the Bountiful Peak alternative would increase project costs by $18.37 million in 1987 dollars. However, no citation is provided for the source of this estimate by WyCal.

The basis for the WyCal cost estimate should be provided so that the reasonableness of the cost estimate can be evaluated.

IN1-11 SPECIFIC COMMENT NO. 7:

p. 4-79 -- The obligation for WyCal to serve non-EOR customers increases the possibility that more than one interstate pipeline will be built and thereby warrants a more comprehensive cumulative impacts study.

IN1-10 Additional cost estimates have been provided by Kern River, WyCal, and Mojave. These will be reviewed and incorporated into the Final Supplement.

IN1-11 Thank you for your perspective, but staff disagrees for the reasons presented in Section 4.4 of the Draft Supplement.

IN1-11 (cont.) The Draft Supplement explains its decision not to include a more thorough analysis of the cumulative impacts of building more than one interstate pipeline to Bakersfield:

> Staff is unaware of any evidence in the record of the proceeding that it is reasonably foreseeable that more than one pipeline would be built to serve the EOR market.

PG&E need not presently debate the "reasonable foreseeability" of more than one EOR-only pipeline being constructed. The more important issue is that, as discussed in General Comment No. 3, supra, p. 6, the Draft Supplement again ignores that WyCal is not an EOR-only pipeline. Rather WyCal is supposed to be an open-access transporter obligated to serve all customers on a nondiscriminatory basis. Before summarily dismissing the potential of more than one pipeline being built, the Draft Supplement should have explored whether it would be "reasonably foreseeable" that WyCal would be built to serve a portion of the over 1 Bcf utility electric generation (UEG) load in Southern California (See Island, Tr. 5488) and that either Kern River or Mojave would be built as an EOR-only pipeline.

By limiting its focus to only the possibility of more than one pipeline in the Kern River/Mojave/WyCal corridor being constructed to serve the EOR market, the Draft Supplement has failed to consider the potential that WyCal will be built primarily to serve non-EOR load and that an additional interstate pipeline will be built to serve EOR load.

IN1-12 SPECIFIC COMMENT NO. 8:

Volume III Supplement, p. 2-1 -- Neither the Mojave Transfer Line nor additional compression is needed for the Intrastate Alternatives.

IN1-12 As stated on page 1-9 of the Draft Supplement, the staff is not entertaining comments on old issues. This is an old issue for which the comment period remains closed.

IN1-12
(cont.)

The Draft Supplement states that the Integrated Intrastate Alternative would "require the equivalent of the Mojave Transfer Line," and for purposes of comparison with Kern River, "could also require the addition of up to 2,000 hp of compression by turbocharging the existing compressors at [PG&E's existing] Hinkley Compressor Station."

As demonstrated by PG&E's Initial Phase II Brief (pp. 28-31), 14/ the Mojave Transfer Line is neither "required" nor "desired" by the Intrastate Alternatives. The Draft Supplement's reference to it should be deleted for the reasons set forth therein.

The Mojave Transfer Line is further not needed because of the abundant opportunities for displacement on the Intrastate Alternatives. Displacement is a method for "exchanging" gas supplied at different points on a transmission system. In essence, displacement provides an efficient reallocation of gas supplies throughout the transmission system and thereby enhances the ability of suppliers to serve end users.

For example, an EOR producer purchasing Canadian gas and transporting it through the PGT system to PG&E's Line 400 could take delivery of an equivalent volume of gas from PG&E's Line 300 in Kern County. The Canadian gas could then effectively be used by PG&E to satisfy system demands served from the Line 400 system, thereby displacing gas supplies which may have otherwise been delivered from the South.

14/ A copy of the relevant portion of PG&E's Initial Phase II Brief is attached hereto and incorporated herein as Exhibit C and is requested to be formally included as part of PG&E's comments.

IN1-12 (cont.)

Similarly, California end-use customers transporting volumes on the Transwestern system can receive deliveries from PG&E through the interutility gas exchange mechanism by which PG&E and SoCal Gas exchange gas from one system to another. The table below identifies the multiple locations where such exchanges can be accomplished. The primary locations capable of bidirectional flow are at the Topock Intertie (i.e., essentially at the Arizona-California border) and at Kern River Station (the Gosford Intertie) near Bakersfield. Additionally, PG&E can deliver volumes into the SoCal Gas system at the Kettleman Intertie near Kettleman City in Kern County. Given existing interconnections and the current capabilities for exchange between the two utilities, an additional point of interconnection, such as the Mojave Transfer Line, is not required.

PG&E/SoCal Interconnections

Interties	PG&E Line No.	Milepost	Capacity (MMcf/d)	Limits
Topock	300B	0.24	200	-
Pisgah	300A&B	116.00	200	N.A.*
Monolith	300A	218.73	12	-
Kern River Station	300A	280.58	500	400**
Buttonwillow	300B	288.42	225	-
Kettleman Intertie	300A	352.61	66	-
Templeton	306	58.43	17	-
Morro Bay	306	69.80	120	-

* Pisgah Intertie is presently closed and out of service.

** Kern River Station Intertie capacity is limited to 400 MMcf/d due to meter limitations.

The Draft Supplement's indication that an additional 2000 HP at the PG&E Hinkley Compressor Station is necessary to increase the utilities' EOR deliverability capacity from 690 to at least 700 MMcf/d

IN1-12 (cont.) is unwarranted and discriminatory. Neither the Draft Supplement nor the FEIS hypothesized any such facility addition for increasing the under 700 MMcf/d capacities of Mojave and WyCal to compare with Kern River. (See Arvedlund, Tr. 12342-43).

PG&E is not proposing to add 2000 HP of compression at Hinkley. Such an addition is unlikely to be necessary, given forecasted EOR demands and the conservative aspects of the intrastate utilities' ability-to-serve analysis set forth in PG-2A.

For these reasons, PG&E requests that the requirement for, and any environmental impacts associated, with either the Mojave Transfer Line equivalent or the addition of 2000 HP at the Hinkley Compressor Station be removed from the final Supplement and that the Final Supplement reiterate that the Intrastate Alternatives are, in fact, "no action" alternatives.

SPECIFIC COMMENT NO. 9:

IN1-13 Volume III Supplement, p. 3-1, Para. 3 -- The Draft Supplement incorrectly implies that looping of existing pipelines would cause "increased" impacts.

The Draft Supplement suggests that construction of looping projects "involve impacts to the environment with regard to vegetation, wildlife and cultural resources" and that these impacts "would be increased for the expansions," even though previous construction had occurred.

The Draft Supplement offers no apparent basis for this rather broad proposition. The Draft Supplement seems to assume that any looping cannot per se be accommodated within (or almost exclusively within) the existing ROW. This criticism by the Draft Supplement of

IN1-13 See previous response.

IN1-13 (cont.) looping appears further at odds with the evidence that looping is environmentally preferred over building a new pipeline. (See e.g. CS-25, Vol. III, p. 3-1; Hargis, Tr. 7152; Moorhouse, Tr. 13333-34).

SPECIFIC COMMENT NO. 10:

IN1-14 Volume III Supplement, p. 3-7, Mitigation Measure No. 155 -- Mitigation Measure No. 155 is unlawful, discriminatory, and cannot adequately mitigate against the probability that growth of the EOR market will not justify a 700-mile pipeline in 1990.

In Mitigation Measure No. 155, the Draft Supplement recommends a three-prong sequential development for the WyCal project. This additional mitigation measure unique to WyCal is prompted by Staff's appropriate "concern about the potential length of WyCal's proposal and associated environmental impact." (Draft Supplement, Vol. III Supp., p. 3-5). It therefore proposes a "sequential" development of WyCal to ensure that it be "incrementally built only as the market materializes." (Id.)

This measure is another ill-fated effort to reconcile the overall finding that WyCal can be made environmentally acceptable with the facts that its length and associated environmental impacts are simply not justified by the size of the EOR market today, nor in the foreseeable future. Staff's conclusion that WyCal can only be made environmentally acceptable upon imposition of Mitigation Measure No. 155 is a tacit admission that WyCal is environmentally unacceptable.

If the Draft Supplement were consistent with the overriding philosophy of the FEIS that the less construction, the more

IN1-14 The aim of Mitigation Measure No. 155 is to promote the environmental advantages of constructing in stages, only as the market materializes. This environmental advantage is exactly the same advantage that the intrastate utilities maintained as part of the reasons why an integrated intrastate system was environmentally superior to the interstate proposals. The staff is not going to get into a debate of "ifs" as to supply scenarios. As Mojave has stated in its comments, it is their opinion that Mojave can provide the necessary service from virtually any producing area on the continent. If this opinion is true, it further justifies the suggested staging concept of Mitigation Measure No. 155.

IN1-14 (cont.)

environmentally preferred the alternative, 15/ the only appropriate action would be for the Draft Supplement to find WyCal environmentally unacceptable and determine the Intrastate Alternatives unconditionally the environmentally preferred alternatives. The Intrastate Alternatives offer the best opportunity for a phased, incremental facility addition designed to match the development of the EOR market.

Mitigation Measure No. 155 is unprecedented. It implicitly defines a potential market for WyCal and then dictates a sequence of construction that supposedly enhances its environmental acceptability.

Throughout the FEIS process, the Ashbacker principles 16/ have been applied equally to Kern River and Mojave because of their mutual exclusivity. As an OEC, WyCal is presumed to be not mutually exclusive.

The first aspect of Mitigation Measure No. 155 would require WyCal to preinvest in a larger capacity system to deliver gas from targeted supply sources to a designated market. Such supply source/market restrictions are at odds with the open access tenets WyCal has supposedly embraced.

Mitigation Measure No. 155 recommends that "dependent upon the market conditions," a Transwestern Supply lateral be built next. The Transwestern Supply Lateral is akin to the Mojave Transfer Line and is not required. (See, supra, pp. 18-21; Vol. III Supplement, p. 3-5).

15/ Staff has previously acknowledged that:

> [A]n underlying theme of the FEIS is that an alternative that would require little or not construction would be environmentally preferable over one that required construction. (PG-163, p. 1).

16/ Ashbacker Radio Corp. v. FCC, 326 U.S. 327 (1945).

IN1-14 (cont.)

The third element of Mitigation Measure No. 155, lacks any justification. It mandates an incremental expansion at the supply end of the system without any explanation as to how delaying development in Wyoming enhances overall environmental quality.

Putting aside its questionable legality, its inconsistency, and lack of support, Mitigation Measure No. 155 is impracticable, unenforceable, and cannot be reasonably expected to mitigate the environmental concerns Staff raises. There is thus no basis to conclude that the construction sequence dictated by this mitigation measure in any way, shape or form enhances the environment.

For instance, PG&E shares Staff's apparent concern that a 1000-mile WyCal pipeline may be built to serve a Kern County EOR load of as little as 200-300 MMcf/d and further that this limited market would desire to be served by Southwest gas. PG&E assumes that Staff seeks to mitigate against such an occurrence by Mitigation Measure No. 155.

However, Mitigation Measure No. 155 cannot reasonably be expected to dictate nor influence the sequential development of the EOR market. Simply assume that the first 200 MMcf/d of WyCal load secures Rocky Mountain gas to serve its EOR operations. How does the WyCal increment which mitigation measure No. 155 would require be built first, and which extends just beyond the Arizona border, accommodate that customer? Either that customer must be turned away, thereby defeating a fundamental purpose of the alternative EOR delivery systems to provide transportation from any desired supply source, or Mitigation Measure No. 155 must be irreparably compromised.

IN1-14 (cont)

Assume further with the same hypothetical that WyCal were to receive an exemption from Mitigation Measure No. 155 on the grounds that its initial customers desire Rocky Mountain gas supplies and thereby WyCal were allowed to construct its 1000-mile pipeline. Now assume that after two years of operation, the EOR producers shift their gas supply choice to Southwest sources. Staff's fear -- a pipeline to Wyoming, which would deliver predominantly, if not only, Southwest gas -- would have been realized, and Mitigation Measure No. 155 easily circumvented.

Mitigation Measure No. 155 simply does not adequately "mitigate" the environmental risks posed by the vagaries of the development of the EOR market. Absent such an appropriate and meaningful mitigation measure (which simply does not exist), the Draft Supplement should have necessarily concluded that WyCal is not environmentally acceptable.

The Draft Supplement's imposition of Mitigation Measure No. 155 on WyCal raises the inevitable question -- shouldn't such a mitigation measure also have been imposed upon Kern River? Even though WyCal is longer than Kern River, the differential length by itself does not adequately justify such disparate treatment.

In short, Mtigation Measure No. 155 is simply another way of the Staff expressing indirectly the environmental unacceptability of Kern River and WyCal. The final Supplement should state this imperative conclusion directly.

CONCLUSION

For each of the above stated reasons, intervenor Pacific Gas and Electric Company respectfully requests that the Supplement to the

Final Environmental Impact Statement reflect and incorporate the comments herein.

Respectfully submitted,

JOSHUA BAR-LEV
STEVEN F. GREENWALD

By
STEVEN F. GREENWALD

Law Department
PACIFIC GAS AND ELECTRIC COMPANY
77 Beale Street
San Francisco, California 94106
Telephone: (415) 972-2959

Attorneys for
PACIFIC GAS AND ELECTRIC COMPANY

September 9, 1988

EXHIBIT A

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

COMMISSION ADVISORY
AND COMPLIANCE DIVISION
ENERGY BRANCH

RESOLUTION G-2765
December 17, 1987

RESOLUTION

PACIFIC GAS AND ELECTRIC COMPANY (PG&E). ORDER AUTHORIZING THREE LONG-TERM AGREEMENTS WITH ENHANCED OIL RECOVERY CUSTOMERS IN KERN COUNTY FOR NATURAL GAS TRANSPORTATION SERVICE. (Advice Letter 1435-G, Filed October 21, 1987)

SUMMARY

1. By Advice Letter 1435-G, filed October 21, 1987, PG&E request authorization to enter into three long-term natural gas transportation agreements with enhanced oil recovery (EOR) customers in Kern County, California. Authorization of these agreements will comport with the intent of Commission Decision (D.) 86-12-009 and will give EOR customers greater security of gas supply at more predictable rates.

2. The term of these agreements is 15-years

3. By this Resolution, we are authorizing PG&E to enter into these three agreements as requested.

BACKGROUND

4. The Commission has acknowledged the potentially large new EOR market for natural gas in Kern County. EOR consists of using natural gas to produce steam which is injected into the ground to heat the oil so that it may be produced more efficiently. Usually, the steam is also used to cogenerate electricity.

4. The Commission has investigated various ways to serve the EOR market with natural gas, including several proposals to serve it directly by an interstate pipeline which would bypass PG&E and SoCal Gas completely. The Commission has determined that sufficient capacity currently exists to supply the EOR market through PG&E's and SoCal Gas' distribution systems without the need to build a dedicated pipeline (Finding of Fact 4, D.86-12-009).

5. D.86-12-009 authorized and encouraged gas utilities to negotiate long-term agreements for gas transmission rates with EOR customers within its established floor and ceiling rate limits. The established floor rate was set at the short-run marginal cost including a shortage cost component. The ceiling rate was set at the long-run marginal cost. As such, floor rates could approach one cent per therm for basic reliability.

6. By this advice filing, PG&E requests authorization to enter into agreements with High Sierra Limited, Kern Front Limited and Double "C" Limited, each of which has a general partner that is a wholly owned subsidiary of Power Systems Engineering of Houston, Texas.

DISCUSSION

7. The three agreements are essentially identical and specify the terms of service to each customer.

8. The rates, as proposed in these three agreements, comport to the guidelines established in D.86-12-009. The initial rates are made-up of the following components:

(a) A monthly customer charge of $1200.00.

(b) A monthly demand rate of 0.0 cents per therm. The monthly demand charge is the demand rate times the maximum monthly usage.

(c) A monthly volumetric rate of 3.7 cents per therm. The monthly volumetric charge is volumetric rate times the total therms delivered to the customer during the month.

(d) A monthly fuel-use and line loss (shrinkage) of 2 percent in-kind.

(e) A monthly capacity priority charge of 0.0 cents per therm.

9. The monthly minimum charge is the monthly customer charge and the monthly capacity priority charge (if applicable). In addition, the customer will be charged for any applicable taxes, fees, surcharges and gathering charges (for gas produced within PG&E's service territory).

10. There are no take-or-pay provisions.

11. The rates are subject to escalation on July 1 of each year as follows: 60 percent of the customer charge, and the demand rate, the priority rate and the volumetric rate will be revised to reflect the rate of inflation in effect in the current year as reflected by a positive change in the Implicit Price Deflator (IPD) of the Gross National Product using the rate in effect on the effective date as the base rate. The shrinkage rate is specifically excluded from inflation.

12. Every 5-years from the date of the first deliveries either party may, within 30-days of such anniversary, request a good faith renegotiation of the rates and charges.

13. The Commission Advisory and Compliance Division (CACD) staff has reviewed this advice letter and accompanying agreements and has determined that the terms and rates of the agreements are within the guidelines established by D.86-12-009. PG&E is put on notice that it is at risk for recovery of revenue shortfalls resulting from these long-term agreements with EOR customers from other customer classes.

14. No protests were received regarding this advice filing.

FINDINGS

1. We find that said agreements comply with our guidelines for long-term gas transportation rates, therefore,

IT IS ORDERED, that:

1. Pacific Gas and Electric Company is authorized, under the provisions of Public Utilities Code Sections 491 and 532, to enter into the agreements with High Sierra Limited, Kern Front Limited, and Double "C" Limited for the transportation of natural gas as submitted by Advice Letter 1435-G.

2. PG&E shall be required to furnish data to establish the volumes, prices, and priority used for these contracts, and the contribution to margin from these contracts annually, and at the time of each revision in the transportation rates, beginning sixty (60) days after the first such revision in rates. This information shall be sent to the Chief of the Energy Branch, Commission Advisory and Compliance Division.

3. Advice letter 1435-G and accompanying agreements shall be marked to show that they were approved by Commission Resolution G-2765.

4. This Resolution shall be served on all parties to the Commission's ongoing Rate Design proceedings in OII 86-06-005 and OIR 86-06-006.

5. This Resolution is effective today.

I hereby certify that this Resolution was adopted by the Public Utilities Commission at its regular meeting on December 17, 1987. The following Commissioners approved it:

STANLEY W. HULETT
President
DONALD VIAL
G. MITCHELL WILK
JOHN B. OHANIAN
Commissioners

Executive Director

Commissioner Frederick R. Duda, being necessarily absent, did not participate.

EXHIBIT B

FILE COPY

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

COMMISSION ADVISORY
AND COMPLIANCE DIVISION
ENERGY BRANCH

RESOLUTION G-2807
AUGUST 24, 1988

RESOLUTION

ORDER AUTHORIZING PACIFIC GAS AND ELECTRIC COMPANY (PG&E) TO ENTER INTO LONG-TERM CONTRACTS FOR NATURAL GAS TRANSPORTATION WITH FIVE ENHANCED OIL RECOVERY (EOR) CUSTOMERS IN KERN COUNTY; ADVICE LETTER NO. 1471-G FILED JUNE 28, 1988.

SUMMARY

1. PG&E seeks approval to enter into fifteen year contracts with five EOR customers, under similar terms and conditions as prior contracts approved by the Commission. Masonite Corporation, a wood products manufacturer, has protested the advice letter. PG&E's request is consistent with the Commission policy toward long-term EOR contracts as set forth in Decision 86-12-009, and is therefore, approved.

BACKGROUND

1. By Advice Letter 1471-G, filed June 28, 1988, PG&E seeks approval of long-term gas transportation contracts with the following five EOR customers, all located in Kern County California: Kern Bluff Ltd.; Live Oak Ltd.; Badger Ltd.; Granite Road Ltd.; and Bear Mountain Ltd..

2. Each of the contracts contains the following terms and conditions:

a. DURATION: 15 years, with possible revision of rates and charges every five years.

b. VOLUMES: 125,000 therms per day maximum with no take-or-pay requirements.

c. CHARGES: A $1,200 monthly customer charge, a monthly volumetric rate of $0.037 per therm; a 2% in-kind payment for fuel use and line losses, and a gathering charge for gas produced in PG&E's territory as set by the CPUC (currently $0.034 per therm).

d. PRIORITY OF SERVICE: Curtailed pro-rata with customers of equivalent priority classification and paying the same priority charge; furthermore, customers gas may be diverted to satisfy P1 and P2 demand in the event of a supply emergency.

e. ESCALATION: Sixty percent (60%) of each of of the revenue charges shall be adjusted annually by positive changes in the GNP price deflator.

3. These terms are very similar to three EOR contracts approved by the Commission in Resolution G-2765 on December 13, 1987.

4. Masonite Corporation, a wood products producer, protests PG&E's filing by letter received on July 18, 1988. Masonite seeks rejection of the EOR contracts because PG&E has not offered Masonite the same rates as it has negotiated with EOR customers. Masonite believes it is a similarly situated customer to EOR customers, because it represents incremental business, has similar cost of service characteristics, and has viable alternative fuel capabilities. Masonite also asks for the rejection of EOR contracts until the Commission determines the ability of long-term transportation agreements to provide service and benefits to the utility system.

5. The Division of Ratepayer Advocates (DRA) filed comments on July 20, 1988. It believes the contracts are consistent with the policies set forth in D.86-12-009 for EOR transportation service. DRA asks that PG&E be reminded that it is at risk for costs of capacity expansion allocated to non-core customers under D.86-12-009 (page 68). DRA is also concerned with the priority designation of EOR customers as P4.

6. PG&E answered Masonite's protest by letter dated August 1, 1988. PG&E states that the contracts conform with the

requirements of the Commission, are virtually identical to contracts recently approved by the Commission, and that Masonite's concerns should have been raised in a different proceeding.

DISCUSSION

1. Masonite's protest of these EOR contracts does not provide an appropriate basis for rejecting PG&E's advice letter. The protest is in essence a protest of our gas industry restructuring Decisions. These decisions provide a sound basis for achieving ratepayer benefits from long-term EOR contracts and adequate rate protection for all customers.

2. DRA's comments and concerns are relevant. PG&E remains on notice of its obligations under D.87-12-009 for recovering costs of capacity expansions. The priority of service provisions within the contracts are sufficiently broad to accomodate further clarification or more detailed specifications which the Commission may in the future find to be useful and beneficial.

FINDINGS

1. PG&E's Advice Letter 1471-G, seeking approval to enter into long-term (15 year) contracts with five EOR customers conforms with Commission policies and decisions with regard to EOR service.

2. These EOR contracts are similar to contracts recently approved by the Commission in Resolution G-2765 (December 13, 1987).

3. Masonite Corporation's protest of these contracts is inappropriate, and is denied.

IT IS ORDERED that:

1. Pacific Gas and Electric Company is authorized under the provisions of Public Utilities Code Sections 491 and 532, to enter into the agreements with Kern Bluff Ltd., Live Oak Ltd., Badger Ltd., Granite Road Ltd., and Bear Mountain Ltd., for the transportation of natural gas as submitted by Advice Letter 1471-G.

2. PG&E remains on notice of its obligations under D.87-12-009 for recovering costs of capacity expansions.

3. PG&E shall be required to furnish data to establish the volumes, prices, and priority used for these contracts, and the contribution to margin from these contracts annually, and at the time of each revision in the transportation rates, beginning sixty (60)days after the first such revision in rates. This information shall be sent to the Chief of the Energy Branch, Commission Advisory and Compliance Division.

4. Advice Letter 1471-G and the accompanying agreements shall be marked to show that they were approved by Commision Resolution G-2807.

5. This Resolution shall be served on all parties to the Commission's Rate Design proceedings in OII 86-06-005 and OIR 86-06-006.

6. This Resolution is effective today.

I hereby certify that this Resolution was adopted by the Public Utilities Commission at its regular meeting on August 24, 1988. The following Commissioners approved it:

STANLEY W. HULETT
President
DONALD VIAL
FREDERICK R. DUDA
G. MITCHELL WILK
JOHN B. OHANIAN
Commissioners

Victor Weisser
Executive Director

FILE COPY

EXHIBIT C

increase in environmental degradation to be wrought by an additional pipeline.

H. Impacts, If Any, Of The Intrastate Alternative/No Action Alternatives.

PROPOSED FINDING OF FACT NO. 19:

The Intrastate Alternatives require no construction of facilities and therefore have no environmental impact.

PG&E and SoCal Gas are currently serving the EOR market with existing facilities. They have sufficient excess transmission capacity to serve the future growth of this market well into the next decade.

PROPOSED FINDING OF FACT NO. 20:

To the extent that future demand increases require the Intrastate Alternatives to add facilities, these alternatives can add any such facilities in an incremental and most environmentally benign manner.

If and when the EOR market develops faster or to a larger magnitude than the current forecast, PG&E can add incremental facilities within the existing pipeline system corridors in an inexpensive and less environmentally disruptive manner. (Grinstead, PG-2, p. 3). PG-2A presents illustrative scenarios for increasing capacity by increments of up to 250 MMcf/d -- significantly more than necessary to serve any reasonable forecast of EOR demand. Even in this illustrative example of maximum throughput enhancement, the facility additions would consist of only 30 miles of looping of Line 300, one new compressor station and additional compression at two existing stations by turbocharging existing units and by adding new units. (Grinstead, PG-2A, pp. 16-17). Any looping of the Line 300 system will utilize fully the existing right-of-way, access roads and maintenance storage areas.

Since looping pipeline segments entails construction within an existing corridor, from an environmental perspective, it is generally preferable to new construction in a new corridor. (CS-25, Vol. III, p. 3-1; Hargis, Tr. 7152; Moorhouse; Tr. 13333-34). The turbocharging of compressor units at existing compressor stations, which is another method enabling PG&E to increase its throughput capabilities, can also be accomplished with minimal environmental disturbance. (CS-25, Vol. V, p. IN-21).

PG&E prepared no comprehensive environmental studies on these facility addition options, as they are strictly illustrative and may not be necessary. (Grinstead, PG-2A, p. 15).

PROPOSED FINDING OF FACT NO. 21:

> The FEIS erred in stating that an additional lateral equivalent to the Mojave Transfer Line is "required" by the Intrastate Alternatives. SoCal Gas and PG&E already have the "desired" interconnection capability at the California-Arizona border.

In describing the Intrastate Alternatives, the FEIS concludes that each alternative would "require the equivalent of the Mojave Transfer Line." (CS-25, Vol. III, p. 2-1; See CS-25, Vol. I, p. s-4). This requirement appears inconsistent with the acceptance of PG&E's comment on the DEIS that the FEIS describe:

> . . . [T]he Integrated Intrastate Alternative as not requiring any new facilities and as capable of being properly designated as a "No Project Alternative." (CS-25, Vol. V, p. IN-12).

In any event, such a facility addition is not "required" both from the purpose of the FEIS and from an operational basis.

The Commission Staff's support for the FEIS finding such a "requirement" was that:

> Construction of a connection similar to the Mojave Transfer Line was considered desirable as to ensure greater flexibility between El Paso/Transwestern/SoCal/PG&E. It was felt that such an interconnection should be located nearer the California/Arizona border to avoid reliance on the first existing interconnection between SoCal and PG&E some 50 miles west of the border. (PG-162, p. 2; Arvedlund, Tr. 12338-39) (emphasis added).

In assessing whether existing facilities are a bona fides alternative to a proposed project, the FEIS' purpose is to determine what, if any, additional facilities are required and to assess the environmental consequences of the existing system constructing such required facilities. The FEIS has no purpose to determine whether additional facilities, beyond those which are required, may under some unstated criteria also be "desired." As such, the association of the Mojave Transfer Line with the Intrastate Alternatives should be deleted.

Even assuming the FEIS may legitimately suggest additional facilities which would make the operating system more "desirable," it is simply wrong to conclude that the equivalent of the Mojave Transfer Line is either "desired" or "necessary" for the Intrastate Alternatives. As set forth above, the expressed "desire" reflects a perception that there should be a PG&E and SoCal Gas interconnection in the vicinity of the California/Arizona border, and particularly one closer than 50 miles into California. (PG-162, p. 2; Arvedlund, Tr. 12341). Staff did agree that if the SoCal Gas-PG&E interconnection it desired, in fact, did exist within a mile of the border, it would "have to yield" on its insistence that the Intrastate Alternatives "require" the Mojave Transfer Line equivalent. (Arvedlund, Tr. 12347).

In fact, such a PG&E/SoCal Gas intertie already exists approximately one/quarter mile west of the border. The Topock Intertie has a bidirectional flow capacity of approximately 200 MMcf/d. (Fast, SG-19, p. 8; Grinstead, PG-2A, p. 11).

The existence of the Topock Intertie negates the need for addition of the Mojave Transfer Line and further reinforces the capability of the existing intrastate facilities.

I. Comparative Analysis.

PROPOSED FINDING OF FACT NO. 22:

On a comparative basis, the Intrastate Alternatives are clearly the least disruptive and the most environmentally preferred alternative.

The only conclusion that can be drawn from the environmental evaluation of the projects is that the Intrastate Alternatives are the least environmentally disruptive. A comparison between the proposed interstate alternatives and the existing intrastate facilities can only conclude that each interstate project will have a significantly greater environmental impact, mitigation measures notwithstanding.

As found by the FEIS, given the uncertainties in the anticipated growth of the EOR market, any proposal with the ability to expand incrementally is obviously preferred from an environmental perspective. (Grinstead, PG-2, p. 17). By this most appropriate criteria, the environmental preference of the Intrastate Alternatives is even more pronounced. No new facilities need be added, if at all, unless and until a very sizable EOR market actually develops. (Grinstead, PG-2, pp. 17-18).

CERTIFICATE OF SERVICE

I hereby certify that I have this day caused a copy of the foregoing document to be served in a manner as set forth in the Notice of Availability of the Draft Supplement to the Mojave-Kern River-El Dorado Final Environmental Impact Report/Statement and Notification of Schedule for Public Meetings for Comment on the Draft Supplement dated July 25, 1988 by first-class mail.

Executed at San Francisco, California, this 9th day of September 1988.

Stephanie Y. Wong

STEPHANIE Y. WONG

COPY

FILED
OFFICE OF THE SECRETARY
88 SEP 12 PM 12: 37
FEDERAL ENERGY
REGULATORY COMMISSION
PUBLIC REFERENCE ROOM

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Mojave Pipeline Company) Docket Nos. CP85-437-000,
et al.) *et al*.
)
Wyoming-California Pipeline) Docket Nos. CP87-479-001
Company) and CP87-480-000
)

COMMENTS OF SOUTHERN CALIFORNIA GAS COMPANY ON THE FEDERAL ENERGY REGULATORY COMMISSION STAFF'S AND THE CALIFORNIA STATE LAND COMMISSION'S DRAFT SUPPLEMENT TO THE FINAL ENVIRONMENTAL IMPACT REPORT/STATEMENT VOLUMES III AND VI, WYCAL SUPPLEMENT

E. R. Island
Michael D. Gayda
A. T. Littleworth
Mark A. Minich
Joyce A. Padleschat
Attorneys for
Southern California Gas Company
801 South Grand Ave., Suite 1000
Los Angeles, California 90017
(213) 895-5134

September 12, 1988

IN-40

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Mojave Pipeline Company,) Docket Nos. CP85-437-000,
et al.) et al.
)
Wyoming-California Pipeline) Docket Nos. CP87-479-001
Company) and CP87-480-000
)

COMMENTS OF SOUTHERN CALIFORNIA GAS COMPANY ON THE FEDERAL ENERGY REGULATORY COMMISSION STAFF'S AND THE CALIFORNIA STATE LAND COMMISSION'S DRAFT SUPPLEMENT TO THE FINAL ENVIRONMENTAL IMPACT REPORT/STATEMENT VOLUMES III AND VI, WYCAL SUPPLEMENT

Southern California Gas Company ("SoCalGas") hereby submits its comments on the draft WyCal Supplement to the Final Environmental Impact Report/Statement ("SEIS") on the Mojave-Kern River-El Dorado Natural Gas Pipeline Projects prepared jointly by the Staff of the Federal Energy Regulatory Commission ("Commission") and the Staff of the California State Lands Commission ("CSLC"). SoCalGas believes that the SEIS fails to satisfy the requirements of both the National Environmental Policy Act ("NEPA") and the California Environmental Quality Act ("CEQA"). SoCalGas's comments are provided in order to allow the staffs of the Commission and the CSLC to remedy the deficiencies before further expenditures of time and money are committed to the Wyoming-California Pipeline Company (WyCal) project. Because, in large part, SoCalGas's comments pertain to its belief that the SEIS fails to assess substantial portions of the WyCal project and that major potential impacts have not been addressed at all, a second draft of the supplement will be necessary.

SoCalGas recognizes that the Commission has established a rigorous schedule for the preparation of the WyCal Supplement. SoCalGas believes, however, that the Commission's desire for expediency cannot be accommodated by failing to develop an accurate assessment of the environmental impacts of the WyCal project. SoCalGas believes that if the full impacts of the WyCal project are understood and compared against the minimal impacts of utilizing intrastate facilities to serve the EOR and cogeneration markets in Kern County, the Commission will recognize the folly of issuing WyCal a certificate.

Throughout its comments, unless otherwise specified, SoCalGas in referring to legal standards means legal standards applicable to both NEPA and CEQA. SoCalGas will refer to the Staff of the Commission or the Staff of the CSLC collectively as the "Staff."

I.

THE SCOPE OF COMMENTS TO THE WYCAL SUPPLEMENT REQUESTED BY FERC IS IMPERMISSIBLY NARROW

FERC's action on the WyCal project will constitute a major federal action significantly affecting the quality of the environment and, therefore, it requires preparation of an environmental impact statement. 42 U.S.C. § 4332. SoCalGas does not object to Staff's decision to prepare an EIS for the WyCal project by means of a supplement to the EIS prepared for the Mojave and Kern River proposals ("FEIS"). SoCalGas indeed recognizes the substantial efficiencies of tiering (40 C.F.R. § 1502.20) the WyCal EIS upon the FEIS.

However, SoCalGas objects to the extent that Staff contends that interested parties are precluded from evaluating the entire length of the WyCal project. The WyCal proposal is an independent action necessitating an environmental impact statement which itself satisfies the full requirements of NEPA and CEQA.

Therefore, SoCalGas contests Staff's conclusion on pages 3 and 4 of the Notice of the Availability of the Draft Supplement published in the first few pages of Volume VI, which provides: "[t]he scope of the comments must be limited to issues discussed in the Draft Supplement. Comments on issues covered in the FEIR/S published in December 1987, will not be addressed in the Final Supplement, i.e., the comment period for old issues is closed."

IN2-1 Staff's attempt to exclude comments on the full extent of the WyCal project eliminates the opportunity to assess fully the merits of the WyCal project. The project is not identical to either the Kern River or Mojave proposals. Even if it were identical, both NEPA and CEQA provide interested parties with a full opportunity to evaluate the environmental merits of an entire project. The purpose of NEPA and CEQA is to develop good information upon which agencies and the public can make reasoned decisions on projects. Restricting comment to portions of the WyCal pipeline because the route is substantially the same as the routes addressed in the FEIS for Kern River and Mojave is inconsistent with the goals of NEPA and CEQA. SoCalGas currently has much better information available to it than it did at the time of commenting on the Kern River and Mojave EIS. It will not be precluded from presenting such information and fully expects that Staff will respond to SoCalGas' comments in full.

It is apparent that Staff was aware of the fragility of its position from its decision to reevaluate the Wasatch variation. Based upon the substantial interest expressed by

IN2-1 Restricting the comments to new issues in the Draft Supplement does not eliminate the opportunity to fully assess the merits of the WyCal project. Other than approximately 95 miles of the 1,006-mile WyCal project, the route is exactly identical to the Kern River/Mojave routes and therefore has already been addressed in the FEIR/S. Restricting comments to those issues solely in the Supplement is certainly consistent with the goals of NEPA and CEQA which encourage the efficiencies of tiering (as well as tiered comments). As stated on page 1-9 of the Draft Supplement, the staff does not intend to allow this Supplement to resurrect old issues and entertain comments on old issues. The comment period for old issues is closed.

IN2-1 (cont.) citizens of the greater Salt Lake City area during scoping meetings, it must have been apparent that such cities, groups and individuals would not be robbed of their right to address the entire project. Those citizens will be provided with an opportunity to comment on those portions of the WyCal route of greatest concern to them, and will be able to utilize and develop in such comments information that would have been unavailable but for the Kern River proposals addressed in the FEIS. By the same reasoning, SoCalGas and all other concerned individuals must be able to comment on all those portions of the WyCal project of particular concern to them.

II.

SPECIFIC COMMENTS

VOLUME VI

A. Section S.1 (page S-1)

IN2-2 1. The SEIS inaccurately describes the proposed market for the WyCal project. WyCal has specifically sought authorization to serve EOR and non-EOR markets in California and elsewhere.

IN2-3 2. The SEIS inaccurately portrays the amount of natural gas currently being used for steam generation in Kern County. Substantial amounts of natural gas are now being used.

IN2-2 This was discussed on pages 1-6 and 1-7 of the Draft Supplement. Additional wording has been added to the Summary of Volume VI.

IN2-3 See response to IN2-1. Exhibit A (approximately 550 pages in length) is not reproduced in this Volume. These existing contracts are available for viewing at both FERC and SLC.

IN2-3 (cont.) SoCalGas has long-term contracts with producers at a maximum contract demand quantity of almost 600 MMcfd. Copies of these contracts are attached as Exhibit A. In addition, other short-term transportation agreements are in place. Further, hundreds of MMcfd of natural gas from local natural gas supplies are being burned.

IN2-4 3. The SEIS inaccurately portrays the effect of entry of a proposed project in allowing producers to steam fields not currently steamed. There is no evidence to support this statement and it should be deleted. Because of the ability of the local distribution companies to provide the natural gas needs of EOR producers, there is no basis to conclude that producers may not be steaming their fields because they do not have the authority to burn oil due to air pollution restrictions. All producers that desire service for natural gas can receive such service from the California utilities.

IN2-4 See response to IN2-1.

IN2-5 4. The SEIS fails to satisfy the National Historic Preservation Act and NEPA. CEQ regulations indicate that draft environmental impact statements must "to the fullest extent possible" be prepared concurrently with any surveys and studies required by the National Historic Preservation Act of 1966 (40 CFR 1502.25 and Section 102 of NEPA). Section 106 of the National Historic Preservation Act calls for identification, evaluation and assessment of effects on historic properties

IN2-5 See response to IN2-1.

IN2-5 (cont.) prior to issuance of a license or permit by an agency. Table 4.6-1 of the WyCal supplement (page 4-83) indicates that Mitigation measures 106 and 107 of Section 3.1 of Volume III will be the means of mitigating the potential loss of significant cultural resources. Mitigation measure 106 indicates that the Section 106 process of the National Historic Preservation Act will be completed after issuance of a certificate by FERC, the lead agency. Therefore, the issuance of a certificate prior to completing the National Historic Preservation Act evaluation violates that act as well as NEPA.

IN2-6 5. Further, the requirements of NEPA and the National Historic Preservation Act are not fulfilled by the SEIS since only a Class I inventory has been carried out. The requirements of NEPA and the National Historic Preservation Act will be fulfilled only by completion of a Class III inventory to identify cultural resources which may be directly or indirectly impacted by construction of WyCal, evaluation of their significance, and assessment of the effects which construction of the WyCal pipeline may have on the resource.

IN2-6 See response to IN2-1.

B. Section S.1.1 (page S-1)

IN2-7 1. The description of the WyCal system is inaccurate because it fails to recognize that WyCal has sought Commission authorization to build gathering systems in Wyoming and distribution systems to deliver its natural gas product. These

IN2-7 This topic was discussed in the FEIR/S and on pages 1-7 and 1-33 of the Draft Supplement.

IN2-7 (cont.) facilities would likely encompass hundreds of miles of additional pipelines with thousands of acres of disruption.

C. Sections S.4, 1.0 (pages S-5, 1-5)

IN2-8 1. Paragraph one of section S.4 indicates that the determination of whether the intrastate option can supply a firm supply of gas to the EOR market will be considered in the FERC certification process. However, paragraph two on page 1-5, states that project need and service firmness are addressed in Phase I. Since Phase I of the hearings did not address the WyCal project, the issues of need and firmness of service must be included in this supplement.

D. Section S.4 (pages S-5, *et seq*.)

IN2-9 1. The Phase I hearings in the Mojave proceeding did not include a determination of need and service requirements of non-EOR customers which are sought to be served by WyCal. Thus, there is no information in the Phase I evidentiary record of the Mojave case on these issues. In addition, because of the nature of the optional certificate procedures under which WyCal has filed its application, there is no determination of need, gas supply or other economic issues. Even for EOR customers, the record in the Mojave proceeding has not been consolidated with the WyCal application. Thus, the market information in the Mojave record is not before the Commission for utilization in determining issues in the WyCal case.

IN2-8 This topic was discussed on pages 1-5, 1-10, 1-11, and 1-12 of the Draft Supplement.

IN2-9 This topic was discussed in the FEIR/S and on pages 1-5, 1-10, 1-11, and 1-12 of the Draft Supplement.

IN2-10 2. The level of environmental destruction premised cannot in good faith be deemed "limited" as Section S.4 would have us believe. The environmental impacts of the WyCal project include the potential destruction of 11,270 acres of vegetation, 254 acres of wetland/riparian habitat, 46 acres of critical waterfowl nesting areas, 9,922 acres of potential threatened or endangered animal habitat, and 4,083 acres of desert tortoise habitat.

IN2-11 3. The FERC staff has determined that the "proposed interstate natural gas pipeline projects would have limited, although in some cases significant adverse environmental impact." However, given the lack of baseline data used to prepare this document, this determination would seem both premature and at odds with the evidence presented. For example, FERC is requiring the successful applicant to conduct surveys for raptor nests once the alignment is marked on the ground (mitigation measure 75 in Volume III of the FEIS). This strongly implies that there is presently inadequate knowledge regarding the distribution of raptor nests along the proposed alignments. Therefore, Staff's determination that the projects would have "limited" impact is without basis.

IN2-12 4. The FERC staff is recommending that the pipeline alignment be modified to avoid habitat of threatened and endangered species in the San Joaquin Valley (mitigation measure

IN2-10 Thank you for your perspective.

IN2-11 There is no requirement in NEPA, CEQA, CEQ regulations, or FERC regulations that require that all site-specific and various resource studies must be available for all the projects now rather than as a part of the mitigation measures recommended by the FEIR/S. The only argument that can be made goes solely to the timing of such studies. The studies will be done before actual construction commences and the studies will in fact be used, in consultation with the Commission and other appropriate federal and state agency staffs, to "fine tune" the actual placement of facilities to avoid or minimize environmental impacts.

IN2-12 See response to IN2-11.

IN2-12 (cont.) 81a of Volume III of the FEIS). However, no information is given regarding the location of any realignments. Staff's conclusion that impacts on threatened and endangered species in the San Joaquin Valley are "limited" is, again, unsupportable.

IN2-13 5. Mitigation measure 89 in Volume III of the FEIS requires the applicant to conduct field surveys to identify habitat which supports viable populations of species of special concern. Implicit in this mitigation measure is that baseline data regarding the location of habitat of species of special concern are lacking. Staff's conclusion that impacts on these species is "limited" is not based on fact.

IN2-14 6. The limited significant impacts referred to on lines six and seven of paragraph two in Section S.4. should be identified.

7. The residual significant impacts to wildlife species of concern page S-23 (item three), "TERRESTRIAL BIOLOGY: Construction and operation", should be identified.

E. Table S-8 (page S-22)

IN2-15 1. Residual significant impacts are expected on surface water quality for the Kern River project (Reference Vol. VI, Table S-7, page S-20), but are purportedly not expected in the same areas (i.e., Wasatch and Tehachapi Mountains) for the WyCal project (Reference Vol. VI, Table S-8, page S-22). Please explain this discrepancy.

IN2-13 See response to IN2-11.

IN2-14 The reader is encouraged to read the full EIS for this information. This is a summary.

IN2-15 Comment accepted. Change made to Volume VI, Table S-8.

IN2-16 2. In Table S-8 of Vol. VI, under freshwater biology significant impacts, the following is stated:

> "Potential significant impacts could occur from construction activities at 13 stream crossings in the Middle Rocky Mountains region, particularly the Provo River and Beaver Creek which cross habitats of sensitive species."

Please correct the inconsistency in the number of sensitive streams crossed. Compare Table S-8 (13) and Table 4.6-1 to Table 1.6-1 (14 for WyCal with El Paso Base Case; 8 for preferable WyCal with variations with El Paso Base Case).

IN2-17 3. The FEIS, including Volume VI, does not include information on abundance and distribution of these "sensitive species", nor is there information presented which describes the habitats in which they occur.

F. Section 1.0 (pages 1-2, 1-3, 1-4, 1-5)

IN2-18 1. The SEIS states at page 1-2 that the Phase I issues are part of the public hearing record that will be considered in the formulation of the Commission's decision regarding the competing proposals. This is incorrect and should be deleted. The Phase I matters considered in the Mojave proceeding have not been consolidated with the WyCal proceeding and, thus, the Commission cannot consider evidence in the Mojave

IN2-16 Seventeen stream crossings would occur along the WyCal primary route. The number of crossings reflected in Table S-8 and Table 4.6-1 cover the WyCal primary route only. The other numbers (17 with the El Paso Base Case and 9 for the preferable WyCal case including use of the Wasatch and North Las Vegas Variations) represent the full case discussion.

IN2-17 See responses to IN2-1 and IN2-11.

IN2-18 As stated on page 1-11 of the Draft Supplement, an OC applicant (WyCal) does not have to file market or gas supply data. Thus, Mojave's Phase I record may not be needed for a Commission determination on WyCal. That does not mean that the Commission could not exercise regulatory discretion.

IN2-18 (cont.) proceeding in its determination for WyCal. Further, the Commission has determined in its Order that the WyCal project is not to be consolidated as a mutually exclusive competing application under the Ashbacker doctrine. Therefore, information on all of the Phase I issues identified at page 1-2 are specifically not included in the record for WyCal. The SEIS is deficient for its failure to consider these matters.

IN2-19 2. The SEIS inaccurately portrays the views of the EOR operators concerning service from the California utilities. During the Phase I hearings in the Mojave proceeding representatives of the only two EOR operators that testified, Chevron and Texaco, both agreed that service from the California utilities was acceptable. Further, the EOR operators' willingness to sign long-term contracts evidences their belief that the service from the California utilities is acceptable. Such long-term contracts have been signed by SoCalGas with Shell, Texaco, Midway-Sunset, Berry Petroleum, Tenneco and others. These contracts are summarized below and are attached as Exhibit A.

IN2-19 See response to IN2-1 and IN2-3. The summary is reprinted in Volume VII.

IN2-19
(cont.)

Customer	Max. Transp. Volume	Term	Advice Letter No.	CPUC Decision or Resolution No.
Shell Western E&P	238 MMcfd.	20 yrs.	1787	G-2793
Energy Reserve, Inc.	16.3 MMcfd.	23 yrs.	1722	G-2747
Texaco	200 MMcfd.	10 yrs.	1527/70	85-12-102 86-01-025
Berry Petroleum	16.2 MMcfd.	10 yrs.	1691	G-2722
Midway-Sunset Cogen	65 MMcfd.	20 yrs.	1784	G-2790
Caterpillar Capital, Inc.	5.7 MMcfd.	13.5 yrs.	1733	G-2786
Midsun Partner L.P.	5.5 MMcfd	15 yrs.*	1793	G-2802
Tenneco	18.9 MMcfd.	5 yrs.**	1806	pending
McKittrick Ltd.	11.9 MMcfd.	15 yrs.*	1810	pending
Chalk Cliff Ltd.	11.9 MMcfd.	15 yrs.*	1809	pending

SoCalGas requests that these contracts be included in the SEIS as part of the analysis of the need for the WyCal project. They are a critical aspect of this required analysis. NEPA demands that the Commission and the EIS consider the project need. Only by inclusion of the full text of the contracts can the final SEIS be considered in compliance with NEPA requirements. Also, inclusion in the final SEIS will assist all parties and the public to provide comments to the Commission on the market

---

* Five year extension upon mutual agreement.

** Fifteen year extension upon Tenneco's written notification; 1-year extensions thereafter by mutual agreement.

IN2-19 (cont.) issues under the procedure for comments established by the Commission. Failure to include these contracts is likely to preclude a full discussion and effective comments.

IN2-20 3. The reliance in the SEIS upon the California Energy Commission's Biennial Report, "California Energy Outlook," is improper and reference to that report should be striken from the SEIS. Testimony presented in the Phase I portion of the Mojave proceeding revealed the unreliability of this document. As a result of that evidence, the Presiding Administrative Law Judge ruled that the Biennial Report could not be relied upon for the truth of its content in the certificate proceeding. Accordingly, it should not be relied upon in the evaluation of environmental impacts and should be striken from the SEIS.

IN2-21 4. The statements on page 1-3 as to the "present regulatory climate in California" and the "available supply arrangements," which the SEIS attributes to the EOR operators, are in error and should be deleted from the SEIS. These allegations have been disproven through testimony by both witnesses for the utilities and the California Public Utilities Commission. The statements in the SEIS are not the EOR producers' current position as evidenced by the contract which they have signed with the California utilities and their testimony in the Mojave proceeding in which they testified that utility service is acceptable.

IN2-20 The report is a state document. The EPA has consistently urged the FERC to present all facets of the need for these projects. The report was cited as evidence of a wide divergence of opinion. Just because Southern California Gas disagrees with the report is no excuse for hiding it.

IN2-21 The allegations have not been disproved until an Initial Decision and/or a Commission Decision decides this. Staff also notes that Chevron has signed a contract with Kern River.

IN2-22 5. The SEIS's discussion of the Pacific Alaska LNG Company decision at page 1-5 is not dispositive of the issue in this SEIS. In the LNG case, unlike the present situation, there was not a "no action" alternative which could fully satisfy the goals of the project. Further, the LNG proceeding was not under an optimal certificate procedure wherein issues like need, gas supply, financing, etc. were not considered but, instead, presumed by the Commission.

IN2-22 Thank you for your perspective.

G. Section 1.1 (page 1-7)

IN2-23 1. The SEIS states that WyCal is not considered a competitive mutually exclusive applicant to the Kern River and Mojave projects "and therefore, in a regulatory sense, not a directly competitive alternative to analysis in the FEIR/S." Is it the opinion of preparers of the SEIS that in an economic sense, WyCal is in fact an alternative to the Mojave and Kern River projects? Is it the view of the preparers of the SEIS that under NEPA the Commission is required to compare WyCal as an alternative to the Mojave and Kern River projects?

IN2-23 The opinion of the SEIS preparers is moot. The Commission itself determined that WyCal is not a mutually exclusive applicant to the Kern River and Mojave projects. With the completion of the Final Supplement in October, 1988, the Commission can compare WyCal as an alternative to Kern River and/or Mojave irrespective of any alleged legal requirement.

H. Section 1.2 (page 1-9)

IN2-24 1. The FEIS fails to address functionally and economically dependent segments of the project such as gathering and distribution systems, access roads, microwave stations, drilling rigs, wellhead equipment, treatment plants and field compression units. As discussed below, these facilities could

IN2-24 See response to IN2-1.

IN2-24 (cont.) easily be estimated or projected. Indeed NEPA and CEQA require that FERC do so.

The SEIS is inadequate for its failure to discuss these "connected actions," which are necessary and interdependent segments of the project. Connected actions are those that flow from the primary proposal but which are interdependent parts of a larger action. 40 C.F.R. § 1508.25(a)(1). Through its application for a blanket certificate, WyCal has applied for authority to develop necessary gathering and distribution systems along with the primary pipeline project. Such systems are essential to the WyCal proposal, flow naturally therefrom and are functionally and economically interdependent upon it. Therefore, they must be evaluated in the SEIS.

The WyCal supplement refers briefly to such related facilities on page 1-9:

> The FEIR/S recognized that certain impacts associated with the construction and operation of drilling rigs, wellhead equipment, gathering lines, treatment plants, field compression units, delivery lines, and access roads are unknown at this time. At this stage in the projects, it is simply too early to describe the extent of such new facilities or their specific locations. For example, the number, size, and locations of gathering lines and distribution facilities will depend upon the future actions of EOR operators, gas suppliers, gas distributors, federal and state regulations, gas brokers, and interstate pipelines. Until the extent, nature, and location of any new facilities is known, which is not expected to occur until after a FERC certificate is issued, their precise impacts cannot be analyzed. It is felt that

IN2-24
(cont.)

> the mitigation measures proposed in Volume III of the FEIR/S will adequately mitigate significant environmental impacts to the areas where such facilities would ultimately be built. No further information is available to be included in this supplement and the reader is referred to the FEIR/S. Issues that were previously discussed in the FEIR/S such as project need, firmness of service, and service to non-EOR users are not being supplemented and are outside the scope of the Supplement. THE STAFF DOES NOT INTEND TO ALLOW THE SUPPLEMENT TO RESURRECT OLD ISSUES NOR ENTERTAIN COMMENTS ON OLD ISSUES. THE COMMENT PERIOD FOR OLD ISSUES IS CLOSED.
>
> IT SHOULD BE EMPHASIZED THAT THE FOCUS OF THIS SUPPLEMENT IS LIMITED TO THE DIFFERENCES BETWEEN THE WYCAL PROPOSAL AND THE KERN RIVER/MOJAVE PROPOSALS. IN THIS REGARD, THE READER IS HEREBY ADVISED THAT THE WYCAL PROPOSAL WOULD HAVE NO NEW IMPACT ON ENVIRONMENTAL RESOURCES IN CALIFORNIA, COLORADO, NEW MEXICO, OR TEXAS WHICH HAVE NOT ALREADY BEEN FULLY ADDRESSED IN THE FEIR/S.

SoCalGas believes that the quoted statements are unsupported in fact and in law and intends to and will, herein, challenge virtually each and every one of these unfounded statements.

SoCalGas has never agreed that the impacts associated with the construction and operation of the various equipment listed in the first sentence of the above-quoted paragraph could not be addressed in the FEIS. In particular, SoCalGas focused its concerns on the failure of the FEIS to address gathering lines, delivery lines, and access roads. SoCalGas does not agree that it is too early to address the potential impacts of such facilities which are certain to be required if the WyCal pipeline is constructed.

IN2-24 (cont.) Staff has allowed WyCal and the other applicants to get away with statements that it "is simply too early" or that the extent of facilities is "unknown," to avoid describing the likely facilities that will flow from their projects. WyCal, which has sought a blanket certificate to construct all such necessary facilities, has not even been asked to project the range of facilities that it would need to construct.

IN2-25 2. With respect to access roads, the Staff was apparently satisfied with WyCal's position that WyCal as of yet has no plans for access roads. If NEPA and CEQA allowed applicants to simply avoid environmental review through intentionally delayed planning, very few environmental impact statements would ever be prepared. There is no legitimate reason why WyCal cannot provide the anticipated location of access roads inasmuch as it has already identified the proposed location of its pipeline.

Certainly, there is no additional information that WyCal must obtain before making such plans. In fact, the FEIS provides that "[t]he first step in construction of a pipeline is to locate, design, and construct/reconstruct access roads where needed." FEIS, Vol. I, p. 2-3. Why then, has Staff allowed WyCal to ignore its access roads? Even if WyCal ultimately does not require access roads for its Wyoming and Nevada segments, it is apparent that some access roads will certainly be required

IN2-25 See response to IN2-1.

IN2-25 (cont.) over portions of the country crossed by the Kern River and Mojave proposals which routes WyCal intends to adopt.

Furthermore, it makes no sense to allow WyCal to assert that, because the final, staked route of its pipeline has not been determined, the development of access roads is uncertain. Instead, applicants must be required to flesh out their entire project before a revised draft SEIS for the WyCal project is circulated for comments.

IN2-26 3. Another clear deficiency is the failure of the FEIS -- and thus of the SEIS as well -- to assess the impacts of pipeline laydown areas that will be required. Presumably, WyCal will utilize pipeline laydown areas in much the same way as would Kern River and Mojave. Again, because agencies and the public are wrongfully precluded from assessing such information in the draft SEIS, it can only be assumed that WyCal will utilize similar laydown facilities. This is just one of the many deficiencies in the information presented for the WyCal project that demonstrates the inadequacy of the approach taken by the FERC Staff in the supplement. By allowing WyCal to bootstrap onto the work performed for Kern River and Mojave without even having to identify the inevitable differences in the manner of construction, including the use of laydown areas, the entire draft SEIS is rendered inadequate.

IN2-26 See response to IN2-1.

IN2-26 (cont.) No assessment whatsoever has been conducted in the FEIS of the potential impacts of pipeline storage and laydown areas, any one of which would require NEPA analysis before being approved by federal agencies. Mojave plans to utilize sixteen ten-acre sites for such work along its proposed route. The location of the areas have not been identified, except that Mojave intends to locate the laydown areas within the FEIS one-mile wide study corridor. The number, size, and location of the laydown areas required for the Kern River proposal have not been identified. The location, size, and environmental impacts of each and every laydown area that may be utilized by WyCal--along the entire WyCal route-- must be addressed in a revised draft supplemental EIS.

IN2-27 4. If the WyCal supplement is to be adequate for the WyCal project, it must present an analysis of the potential impacts of new gas distribution lines that will be required to serve the EOR and non-EOR markets that WyCal intends to serve. The FEIS acknowledges that new gas distribution lines will be built (Vol. I, p. 1-6) but provides no information or analysis on the size, length, or location of the lines. The facilities WyCal intends to serve in Kern County are no secret, and Staff must recognize its duty to include in the SEIS the likely impacts of the potential distribution lines that will be required to serve such facilities.

IN2-27 See response to IN2-1.

IN2-27 (cont.) The locations of the EOR fields in Kern County are discrete and well-known. The study area used in the FEIS was one mile wide. Using this as a basis, if Staff did no more than study the one-mile wide area on a straight line from the proposed pipeline to the various fields, all likely routes for distribution facilities would no doubt be included.

Proof that such an analysis is possible is amply provided by the testimony of Mr. Richard Phillips of SoCalGas, a witness familiar with distribution of gas in Kern County. In his testimony, Mr. Phillips presented a very conservative analysis of the necessary facilities. He depicted a "backbone" type system with piping size from six inches to twenty inches. His depiction of such lines indicate that somewhat in excess of 138.6 miles of distribution facilities will be necessary for the Kern River pipeline and 114.5 miles will be necessary for the Mojave or WyCal pipelines. It is apparent that Staff and applicant are fond of arguing at this stage that the exact size and location of such pipelines are unknown and thus need not be assessed in the EIS. Mr. Phillips' testimony demonstrates the fallacy of such arguments. His unrefuted testimony was that the environmental impacts associated with the construction of pipes between six inches and twenty inches in diameter were essentially the same, meaning that an environmental analysis could have been included in the FEIS covering the likely range of

IN2-27 (cont.) pipelines that will be used to complete the backbone distribution system. Furthermore, a review of Mr. Phillips' diagram of likely pipeline systems included in his testimony clearly demonstrates that the locations of the proposed distribution pipelines are relatively obvious. The Kern River and Taft laterals of the Kern River and WyCal proposals were placed in such a way as to be in proximity to the fields that the various applicants intend to serve. An individual familiar with the nature of the design of distribution pipelines, such as Mr. Phillips, could readily draft the inevitable route of such pipelines.

IN2-28 5. Similarly, the facilities that will be necessary for gathering and processing the gas are readily ascertainable through reasonable efforts by Staff. For example, Kern River in its application and testimony sets forth fields in Wyoming from which it anticipate receiving gas supply. Ex. KR-A, attachs. G, H; Ex. KR-2, p. 13, ex. KR-7A. There is no question but that WyCal could supply to Staff the likely sources of gas in southwestern Wyoming and plot proposed routes. This would involve no more, and probably much less, effort than already expended by WyCal and would provide the public and appropriate agencies with an opportunity to assess the potential for impacts from the necessary gas gathering and processing facilities in southwestern Wyoming.

IN2-28 See response to IN2-1.

IN2-28 (cont.) Without such basic information, it is impossible to determine the full environmental impacts of the WyCal project. It is easy to talk about the possible need for a few additional gas processing facilities, but it must be emphasized that the gas processing facilities can involve relatively simple structures taking only a few acres, or enormous refinery-like plants to remove hydrogen sulfide gas. If, as WyCal asserts, its project will have the effect of opening up shut-in fields in southwestern Wyoming and providing new economic opportunities in that region, then it must also understand that its project could result in the construction or expansion of facilities with the potential for significant adverse environmental impacts. These impacts must be recognized, must be addressed in a draft environmental impact statement, and must be offered to the public and to responsible agencies for review and comments.

IN2-29 6. The FEIS, as included in the SEIS, asserts that impacts of certain facilities associated with the proposed pipelines (i.e. gathering lines, distribution lines, access roads) are unknown at this time. Section 1502.22(b)(2) of the CEQ guidelines indicates that the agency should state the "relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment" within the EIS. This information is lacking in the FEIS and the SEIS.

IN2-29 See response to IN2-1.

IN2-30 7. The FERC Staff contends that mitigation measures presented in the FEIS, as included in the SEIS, would adequately mitigate significant environmental impacts resulting from additional facilities that would ultimately be required. This is an overly simplistic assumption given that the impacts of these additional facilities are not known. This would appear to be another instance of FERC's over reliance on mitigation measures to offset significant impacts. Resource management agencies and public interest groups have expressed the same reservations regarding FERC's reliance on mitigation plans at the expense of an adequate analysis of existing conditions and environmental impacts (see U.S. General Accounting Office, 1988, Report to the chairman, Committee on Energy and Commerce, House of Representative, Opportunities for strengthening hydropower cumulative impact assessment GAO/RCED-88-82, Washington, D.C.).

IN2-31 8. Additionally, the SEIS recognizes that the WyCal proposal is not a mutually exclusive proposal to that of Mojave and Kern River. Accordingly, it is possible that both the Mojave and the WyCal proposals will be certificated and constructed. In light of this fact, the SEIS is incorrect when it states at page 1-9 "the WyCal proposal would have no impact on environmental resources in California, Colorado, New Mexico or Texas which have not already been fully addressed in the FEIR/S."

IN2-30 See response to IN2-11.

IN2-31 Staff does not agree with this comment. See discussion on cumulative impacts in Section 4.4 of the Draft Supplement.

I. Section 1.3.2 (pages 1-10, 1-11)

IN2-32 1. The SEIS summarizes part of the Commission's regulations concerning optional certificate procedures. Noticeably absent from this description is the fact that the Commission's regulations preclude an application from being approved under the optional certificate procedures if there is a significant adverse impact on a sensitive environmental area. 18 C.F.R. § 157.206 (d)(4). Further, the Commission in its Declaratory Order on WyCal has indicated its intention if necessary to waive this part of its regulations. Wyoming-California Pipeline Co., 44 FERC ¶ 61,001 (1988). Please explain how FERC can fulfill its obligations under NEPA if there is no consideration at any point in the proceeding of the need for the project. Since the draft SEIS concludes that the WyCal project will have significant environmental impacts, please explain why the SEIS does not comply with the present regulations of the Commission and recommend that the WyCal proposal be denied a certificate under the optional certificate procedures. Please explain how the Commission will be able to consider and balance the need for the project against environmental impacts if the need for the project is not explored in the SEIS and the Commission waives its current regulations and does not consider the need for the project under

IN2-32 As stated on page 1-10 of the Draft Supplement, the Supplement is not the vehicle to submit comments on the merits of the OC program. Such comments were sought and accepted during the rulemaking process setting up the OC program. SoCal may not like the OC process, in that demonstrations of project need and market data are not required, but this is the wrong forum to present your disagreements with the OC process.

IN2-32 (cont.) the presumptions included in the optional certificate procedures.

J. Section 1.3.6 (page 1-17)

IN2-33 1. The first sentence of this section states that permits would be required from a variety of Indian tribes. Table 1.2-1 lists Laguna, Navajo, Fort Mojave and Moapa lands in connection with issuance of a ROW grant by the Bureau of Indian Affairs. At what specific mileposts will the WyCal ROW cross lands administered by the BIA for each of these tribes? These permit requirements should be listed in Tables 1.2-1, 1.2-2 or 1.2-3.

K. Section 1.6 (pages 1-33, 1-34)

IN2-34 1. The comment in the SEIS in response to the EPA letter on page 1-33 to the effect that the intrastate alternative will require the construction of additional drilling rigs, wellhead equipment, gathering lines, delivery lines and access roads is incorrect as are remarks in the FEIS to the same effect. These comments should be deleted from the SEIS. There is no information in the record that such facilities will be required to effectuate service through the "no action alternative."

2. With reference to response No. 1 to the EPA letter at pg. 1-33 of the SEIS, the following statement is found:

IN2-33 Table 1.2-1 has been revised to delete Laguna and Navajo lands. The reader is encouraged to read the EIS to obtain the information sought in this comment rather than a summary table.

IN2-34 There is no information in the record by SoCal, PG&E, or the CPUC that such facilities will not be required by the "no action" alternative. Like the interstate proposals, until both supply and delivery contracts are signed by the intrastate utilities, the extent of these facilities is unknown at this time.

> "Staff agrees that such facilities, whatever they are, will be needed by all of the proposals and alternatives, including the intrastate alternatives. In that respect, the impacts, although unknown or at least non-specific, can be assumed to be equal for comparison purposes."

IN2-35 This statement implies that the purpose of the SEIS is to permit a comparison of alternatives only. This is incorrect as a matter of law and an environmental impact statement so premised is inadequate. The purpose of the environmental impact statement is to permit a meaningful assessment of the actual injury to the environment that would result from implementation of a proposal.

IN2-36 3. The FERC Staff indicates that section 1502.13 of the CEQ guidelines states that the EIS should briefly specify the purpose and need of the proposed action. However, the SEIS fails to comparatively discuss the need for service and which alternatives (including the intrastate alternatives) would meet this need. This lack of clarity regarding need prevents the decisionmakers and the public from having a clear basis for choosing among options. This is clearly required by the CEQ guidelines which state that the EIS "should present the

IN2-35 The statement does not imply that the purpose of the SEIS is to permit a comparison of alternatives only. The purpose of any EIS is to examine the environmental impacts associated with a proposal and any reasonable alternatives, including the intrastate alternative, which staff feels will also require such ancillary facilities.

IN2-36 This is fully discussed in the FEIR/S and on pages 1-2 to 1-6 of the Draft Supplement.

IN2-36 (cont.) environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public" (Section 1502.14). While the supplement to the FEIS does provide a comparison of impacts of the alternatives, no clear basis for choice among options is possible given the lack of firm information on need and firmness of service.

IN2-37 4. The FERC Staff indicates that mitigation measures in the FEIS will "adequately mitigate significant environmental impacts" of facilities such as gathering lines, delivery lines, and access roads even though the impacts of these facilities are not known at this time. As stated above, this represents an over reliance on mitigation plans to reduce project-related impacts given that there is no baseline data available to predict project related impacts.

IN2-38 5. The FERC staff indicates at page 1-34 that "12 measures" as recommended by the U.S. Fish and Wildlife Service to lessen project related impacts on threatened and endangered species in the San Joaquin Valley would result in a "no jeopardy" finding for these species. This is not true. The Biological Opinion (Appendix G of Volume II of the FEIS) states that the successful applicant "shall provide a supplemental biological assessment based on route re-alignment and field surveys to the U.S. Fish and Wildlife Service and Federal Energy

IN2-37 See response to IN2-11.

IN2-38 In a letter dated February 9, 1988, from the USFWS to FERC, USFWS stated that should the WyCal pipeline be licensed, it would have to comply with all provisions in the USFWS Opinion in order to be in compliance with the Endangered Species Act. Since WyCal has already adopted the measures in the USFWS Opinion (by adopting staff's recommended mitigation measures), it is staff's opinion that the WyCal project is not presently in "jeopardy".

IN2-38 (cont.) Regulatory Commission for review and comment prior to construction" (page 15 of Appendix G). In addition, the "specific route realignment and associated mitigation must be acceptable to the U.S. Fish and Wildlife Service." Therefore, it is entirely premature for FERC to indicate that implementation of mitigation plans in the FEIS would result in a "no jeopardy" decision given that the field studies and impacts analysis of modifying the alignment in the San Joaquin Valley have not been conducted.

L. Section 2.2.1 (pages 2-1 to 2-8)

IN2-39 1. The description of the proposed facilities in the SEIS fails to state that WyCal will need to construct gathering and processing facilities in southeast Wyoming and northeast Utah and distribution facilities in Kern County for service to EOR and non-EOR customers and distribution facilities in other areas in which it may serve non-EOR customers.

IN2-39 Such facilities are discussed in the FEIR/S and pages 1-6, 1-33, and 1-34 of the Draft Supplement.

IN2-40 2. With respect to page 2-8, what are specific locations of the water course, railroad, and major road and highway crossings which would require additional land beyond the 100 foot construction ROW width? How much total additional acreage will be required?

IN2-40 Such information will be determined when the final route is staked and approved, subject to the outcome of the environmental studies recommended by staff's mitigation measures and in consultation with the other appropriate federal, state, and local agencies. Also see response to IN2-11.

M. Section 2.4 (page 2-19)

1. The requirement that an EIS evaluate all reasonable alternatives applies to the WyCal project and the EIS

IN2-41 being prepared for it. The fact that Staff has chosen to prepare the EIS as a supplement to the FEIS does not absolve Staff of its responsibilities pursuant to NEPA. Mojave and Kern River are in fact, alternatives to the WyCal proposal and must be evaluated in an EIS. Such evaluation cannot be completed outside of the FEIS as NEPA and CEQA require that all such relevant information be contained in the environmental document itself.

IN2-42 2. The MexUS Pipeline Company has filed in Docket No. CP88-656 an application for a certificate to construct a pipeline which would move gas from Texas to California. This pipeline could provide additional capacity for the market to be served by the WyCal project and, therefore, should be considered as an alternative.

N. Section 2.6 (pages 2-10, 2-20)

IN2-43 1. To what aspects of the proposed WyCal project did the "generic concerns" expressed by the BLM relate? What environmental components, such as visual, endangered species, etc., are the BLM concerned about? What Staff efforts have been made to identify specific environmental concerns in the Whitney Canyon area?

O. Sections 3.1.6, 3.2.1.6, 3.2.2.6, 4.2.6, 4.3.1.6, 4.3.2.6 (pages 3-4, 3-24, 3-43, 4-15, 4-47, 4-67)

1. The information presented in the freshwater

IN2-41 Staff is not absolving itself of its responsibilities. It is doing it in the most efficient way encouraged by NEPA and the CEQ regulations, i.e., the tiering process.

IN2-42 There is absolutely nothing in the MexUS application that suggests service to the EOR market.

IN2-43 BLM did not express any specific aspect of what their concerns were, other than a generic desire that use of existing or environmentally approved corridors in the southwest Wyoming region be utilized. Staff efforts were discussions with local BLM personnel, with followup inquiries by staff environmental consultants.

IN2-44 biology sections of the SEIS and the FEIS as a whole appear to emphasize the value of fisheries in a disproportionate manner over ecological values. Stream crossings at streams possessing game fish populations appear to receive more attention and, hence, are implied to be more important than streams with non-game fish species though the latter streams may be ecologically significant. This shift in emphasis should be put back in balance with biological resources which are not necessarily of direct benefit to man.	IN2-44 The staff does not agree that the analysis is disproportionate in its emphasis. Game fish are an indicator organism for the overall quality of the aquatic habitat.
IN2-45 2. Numerous references are made in Volume II of the FEIS, the Kern River environmental report (Vol. II), and in WyCal's environmental report (Exhibit WC-3B) as to the importance of riparian wetland communities to wildlife species diversity and abundance in arid regions. Generally, the riparian wetland communities described in these documents have been limited to streams and washes, which probably represent the preponderance of wetlands along the pipeline corridor. However, other wetlands -- such as marshes, small ponds, and mud flats--are scattered throughout the project area (Vol. II, Section 2.2.3.2 of Kern River's environmental report). Locations and descriptions of these features do not appear in the WyCal Environmental material or the underlying FEIS. Also absent is a listing and description of seepage zones/riparian communities adjacent to irrigation canals, which are referenced	IN2-45 The location of wetland areas were done at the same level of effort for the Draft Supplement as were done for Volumes I and II of the FEIR/S.

IN2-45 (cont.) (section 2.2.3.2) as having ". . . been considered during the inventory and assessment process." Although man-made, "these areas provide a valuable habitat resource for resident and migratory waterfowl," and probably for some aquatic species as well. Since aquatic systems and associated wetlands and riparian areas are of prime importance in the areas of the proposed project, and since important wetland features (e.g., marshes, small ponds, springs, mud flats, and seeps from irrigation canals) were not identified, mapped and described in Volume VI and Appendix D in terms of existing conditions and potential pipeline-related impacts, the SEIS for the WyCal project is incomplete and therefore, inadequate.

P. Section 3.1.7 (pages 3-4, 3-6, 3-7, 3-8)

1. The description of the affected environment for terrestrial vegetation and wildlife does not provide enough information to adequately assess the impacts. This same opinion was expressed in the U.S. General Accounting Office (1988) report regarding the collection of baseline data for other FERC related projects. This report states that "resource management agencies and public interest groups have expressed the view that insufficient data exists on resources and project impacts on resources to make a reasoned evaluation and that insufficient time is provided for the collection of additional data" (see comment on page 1-9 in Section 1.2 above for complete GAO

reference). The types of additional data that should be included in the final Supplement are:

IN2-46 a. The types of wetland/riparian habitats that may be impacted. CEQ guidelines require that both short-term and long-term impacts be analyzed (Section 1502.16). With regards to wetland/riparian habitat, the impact of clearing a wooded wetland/riparian area would be long-term in relation to clearing a grass dominated wetlands, yet the SEIS does not provide the necessary baseline data so possible long-term impacts on wetland/riparian habitat can be analyzed.

IN2-47 b. The methods used to determine the number of nesting raptors along the proposed alignments were not provided. The SEIS indicates that nine raptor nests occur within one-half mile of the proposed route and that this information was obtained from the BLM and Wyoming Fish and Game. However, no information is given regarding the methods used to obtain this information, how much of the proposed alignment had been surveyed for raptors, how recently raptors

IN2-46 See response to IN2-45.

IN2-47 The methodologies are identical to those established and described in the FEIR/S.

IN2-47 (cont.) nested within one-half mile of the alignment, whether the nine nests were active, etc. The CEQ guidelines state that study methods be provided in an EIS (Section 1502.24).

IN2-48 c. More data are required to adequately assess the possible impacts of project construction on the sandhill crane and nesting waterfowl. This would include the definition of a "sandhill crane major production area," and how many sandhill cranes nest within one-half mile of the project.

Q. Section 3.1.7.2 (pages 3-7, 3-8)

IN2-49 1. At the end of paragraph two on page 3-7, it is indicated that the proposed route would traverse only one critical sage grouse breeding area and yet there are seven leks within 1.5 miles of the route. This indicates that FERC has information regarding the location of the route within the one-mile study corridor. If FERC has such information, it must be provided in the SEIS.

IN2-50 2. In paragraph two on page 3-8, FERC indicates that no nests of the ferruginous or Swainson's hawk occur within the analyses corridor. Have surveys for these species been conducted along the analyses corridor and, if so, how much of the

IN2-48 It is sufficient to define the sandhill crane concern in generalities. No data is available from state or Federal agencies that define the breeding density within this production area. An on-site nesting survey is beyond the scope of this project, and would not be consistent with the level of analysis presented for the other proposed pipelines (FEIR/S).

IN2-49 The proposed route location was provided in Volume IV of the FEIR/S and Appendix D of the Supplement.

IN2-50 Literature searches identical to those conducted for the FEIR/S were also done for the Draft Supplement. Also, see response to IN2-11.

corridor was surveyed? When did the surveys take place, and what methods were employed to conduct these surveys?

R. Section 3.1.10.1 (page 3-14)

IN2-51 1. The statement that cultural resources "[d]ata recording and analysis procedures employed in the study of WyCal's proposed new segments were fully consistent with those employed in the earlier assessments of the Kern River and other proposals" is incorrect. As indicated in Appendix D, Maps 19, 20, and 21 of 26, the analysis corridor utilized for evaluation of potential environmental effects of the North Las Vegas Variation (MP 112 through MP 123 and MP 148 through MP 151 WC NLVB) is not consistent with the analysis corridor analyzed elsewhere for the WyCal project or as defined and employed in the FEIS or Cultural Resources Technical Report (de Barros 1987). The FEIS (Vol. I, p. 3-59) defines the milewide analysis corridors as being "centered on the proposed routes." The Cultural Resources Technical Report (de Barros 1987:1-1) defines the area of the proposed gas pipeline project's potential environmental effect as "a one-mile corridor centered on all pipeline routes and their alternatives or variations." Those portions of the WyCal North Las Vegas Variation analysis corridor between MP 112 and MP 123 and between MP 148 and MP 151 are not centered on the proposed pipeline. In these areas where the proposed pipeline parallels the Nevada side of the

IN2-51 See response to KR-12.

IN2-51 (cont.) California-Nevada border, the analysis corridor extends one mile north of the pipeline rather than being centered on the pipeline.

IN2-52 2. Please explain why the analysis corridor for those segments discussed above is not consistent with the analysis corridors defined for the remainder of the project. What cultural resources have been previously recorded in California to the west of the proposed pipeline which might be affected, either directly or indirectly, by pipeline construction? What areas within one-half mile of the pipeline have been previously inventoried for cultural resources in California? Has consultation been carried out with the Bureau of Land Management in California on the subject?

IN2-52 See response to KR-12.

IN2-53 3. It is stated in the Summary to this section that "the WyCal Wyoming new route (NL 0-54.4) roughly approximates the Kern River route for a portion of its length." The SEIS should specify at which specific mileposts it approximates the Kern River route and whether it is within the one-mile study corridor of the Kern River route.

If the WyCal Wyoming new route approximates the Kern River route, why were previous surveys cited in the WyCal supplement on page 3-14, such as the BLM Kemmerer Resource Area and BLM Overthrust studies, not cited in the Cultural Resources

IN2-53 It is not necessary to do this. The Draft Supplement does not rely on the FEIR/S for information on this portion of the route. Since all of the WyCal route in Wyoming does not parallel the Kern River route, new information was gathered. This information may not have been pertinent to the Kern River analysis.

IN2-53 (cont.) Technical Report (de Barros 1987:3-112; Appendix G, Table 1) summary of previous surveys for Wyoming?

IN2-54 4. Has a supplement to the Cultural Resources Technical Report (de Barros 1987) been prepared to complement Vol. VI? Are details of the "75 survey and other study segments . . . examined within or partially within the analysis corridor" summarized as in Appendix G, Tables 1 and 2 of the Cultural Resources Technical Report? If not, how can comparisons and evaluation of data be made by qualified investigators?

IN2-54 Yes.

IN2-55 5. What percentage of the direct and indirect impact areas associated with the Hams Fork Metering Station, the Anschutz Compressor Station, the Henderson Compressor Station, and the New York Mountains microwave station have been previously inventoried? Are the cultural resources previously recorded in association with these proposed project components included in Table 3.1-8, or are they in addition to these known cultural resource types?

IN2-55 Cultural resources previously recorded in association with the project components discussed have been included in Table 3.1-8. The first three stations have been completely surveyed and inventoried. Surveys have occurred at the New York Mountain microwave station, but the entire area has not been examined.

S. Table 3.2-2 (page 3-22)

IN2-56 1. Stone Creek is shown as a perennial stream on Table S.2-2 and yet is not shown as possessing wetland/riparian vegetation (refer to Table 3.2-4 of Vol. VI). Please explain.

IN2-56 The area around the Stone Creek crossing is a residential neighborhood. The occurrence of wetland/riparian vegetation was not observed.

T. Section 3.2.2.7.1 (page 3-43)

IN2-57 1. The analyses of wetland/riparian habitat in the North Las Vegas Variation as presented in the SEIS is

IN2-57 See changes to Section 3.2.2.7.1 of Volume VI.

IN2-57 (cont.) incomplete. For example, it is stated that "Crescent Springs appears to be the only wetland/riparian area along the route." Given the importance of wetland/riparian habitat, especially in the arid southwest, the supplement should not only provide exact information on the locations of wetlands along the proposed route but also provide a description of the various wetland/riparian plant community types that occur along the route.

U. Section 3.2.2.7.2 (page 3-44)

1. As was the case in Section 3.1.7 of the SEIS, the description of the affected environment in Section 3.2.2.7 does not provide a basis from which to analyze the impacts of the proposed action nor it is a description of the methods used to obtain the information presented. The following areas should be expanded upon:

IN2-58 a. The source of the information on page 3-44 regarding desert tortoise density;

IN2-59 b. The dates the surveys were conducted and the methods used to determine desert tortoise density;

IN2-60 c. The source of the information on page 3-44 regarding the distribution of the desert bighorn sheep along the proposed route;

IN2-58 See Reference section of Volumes II and VI.

IN2-59 See response to IN2-50.

IN2-60 See Reference section of Volumes II and VI.

IN2-61 d. When, exactly where, and by whom the surveys for bighorn sheep were conducted;

IN2-62 e. Methods used to survey bighorn sheep; and,

IN2-63 f. The phase "bighorn crucial summer habitat." Will the proposed route impact water sources used by the bighorn and/or lambing areas?

IN2-64 2. The CEQ guidelines require that the EIS address indirect impacts (Section 1502.16(b)). Possible ORV use is an indirect impact that could occur along the proposed route once it is completed. The section on affected environment should contain an analysis of ORV use that presently occurs near the proposed alignment especially in the desert tortoise and desert bighorn sheep habitat.

V. Section 3.2.2.10 (page 3-47)

IN2-65 1. Were the eight cultural resource sites recorded in the analysis corridor of the new WyCal segment of the North Las Vegas Variation recorded in association with the sixteen surveys which resulted in a total coverage of 0.5 miles? If the answer is yes, then the average site density per square mile for this portion of the WyCal would be 16 sites per square mile.

W. Section 4.1 (page 4-1)

IN2-66 1. The SEIS recognizes that the WyCal proposal is not a mutually exclusive proposal to that of Mojave. Accordingly it is reasonably forseeable that both the Mojave and the

IN2-61 See response to IN2-50.

IN2-62 See response to IN2-50.

IN2-63 At present it is not known if any bighorn sheep water sources would be impacted by pipeline construction. When a pipeline route has been chosen, and detailed routing and staking has been completed, specific impacts to water sources can be quantified. Mitigation measures detailed in the FEIR/S provide sufficient means to alleviate impacts to water sources due to pipeline construction.

IN2-64 See response to IN2-1.

IN2-65 Two surveys provided coverage across the new portions of the North Las Vegas Variation. In addition to these two surveys, 21 other cultural resource surveys crossed the proposed route. The assumption of a site density of 16 sites per square mile is not warranted.

IN2-66 This issue is covered in Section 4.4 of the Draft Supplement. It is not reasonably foreseeable that both proposals would be constructed.

IN2-66 (cont.) WyCal proposals will be certificated and constructed. In light of this fact, the SEIS is inadequate for failure to identify the environmental impacts of the required expansion of upsteam pipeline facilities (i.e. Transwestern, El Paso and Northwest) that will be required to serve both the Mojave and WyCal pipeline.

X. Table 4.2-7 (page 4-16)

IN2-67 1. Table 4.2-7 indicates that the WyCal pipeline crossing of Muddy River will produce a non-significant impact. This statement cannot be correct because this watercourse is rated as a Class B stream due to the presence of a number of sensitive species, including the federally listed Moapa dace and three federal candidate species. (Refer to page 4-147 of Vol. II).

Y. Table 4.2-8 (page 4-21)

IN2-68 1. Footnote 3 of Table 4.2-8 claims to define short-term loss. However, no information is provided regarding the duration of short-term loss. For example, grassland, sagebrush and most wetland/riparian habitat losses are listed as short-term. Habitat restoration for grassland habitat can be completed in one or two years while shrub habitat restoration may take several years. The supplement suffers from a general lack of information regarding the vegetation restoration plan

IN2-67 See response to IN2-1.

IN2-68 Short-term and long-term losses are defined based on ease of or probability for successful revegetation as well as the management of vegetation within the construction and operational ROWs. The pipeline companies, including WyCal, have not developed specific revegetation and rehabilitation plans for their projects. Consequently, the duration of these losses is based on assumptions relative to successful revegetation in each vegetation types as well as whether shrubs and/or trees are kept clear of the operational ROW. The duration of vegetation type loss is only important for Class I and/or II impacts. These are important due to the long duration of successful revegetation to predisturbance conditions in vegetation types that provide unique and significant wildlife habitat, are very difficult or impossible to successfully return the disturbed area to predisturbance conditions, or are important losses for administrative reasons such as disturbance in wetlands. The long-term duration of Class III impacts is generally not of consequence since the vegetation types is either not sensitive from a revegetation standpoint, or is not sensitive from a unique community type or wildlife habitat standpoint.

IN2-68 (cont.) which would include the period of time required for a plant community to be restored.

2. Footnote 4 of Table 4.2-8 claims to define long-term impact but, as in the case of short-term impact, no data regarding the length of time involved in a long-term impact is provided.

IN2-69 Z. Section 4.2.7.1 (page 4-22)

According to the FEIS, a Class II impact is a significant impact that can feasibly be mitigated or avoided. The SEIS indicates that the impact to montane forest is a Class II impact. However, as indicated on Table 4.2-8, large woody vegetation will be prevented from growing on the 50-foot wide portion of the construction ROW during the life of the project. After the ROW is abandoned, it would take hundreds of years for a mature montane forest to reestablish. This impact should be considered Class I since there is no way to mitigate or avoid this loss.

The remaining 50 feet of the 100 foot ROW would be allowed to revegetate, but it would take hundreds of years for a mature montane forest to become reestablished. This impact is termed short-term on Table 4.2-8 but clearly this is a long-term impact. In addition, this should also be considered a Class I impact since there is no way to mitigate or avoid the impact.

IN2-69 See response to IN2-1.

IN2-69 (cont.) The loss of 78.7 acres of wetland/riparian habitat is considered a Class II impact in the supplement. However, no information on the wetland plant community types that constitute the wetland/riparian areas that would be impacted is provided. This omission should be rectified so decisionmakers and the public can make an informed review of the project-related impacts on these important habitat types. Also, the Supplement should include the mitigation measures that would be implemented to mitigate this significant impact. Here again, reviewers of this document are not provided with the necessary information to make an informed review of this SEIS.

AA. Section 4.2.7.2 (page 4-22)

IN2-70 1. The "quantification of impact" on game species is superficial and entirely inadequate. In addition, some of these impacts are considered Class II but no information is provided regarding which specific mitigation plan would reduce or eliminate a specific impact. While it is true that the mitigation plans are presented in the FEIS, it would be much more convenient if the mitigation plans that apply to a specific impact in the supplement are at least listed by number in the supplement.

2. The impacts analysis presented in this section needs to be expanded in at least the following areas.

IN2-70 **Thank you for your perspective.**

IN2-71 a. Clarify what is meant by 3.9 miles of sage grouse nest disturbance. Does this mean 3.9 miles of nesting habitat? If so, where exactly along the proposed route is this 3.9 miles of nesting habitat located? What would be the impact of the proposed route on leks, important brood rearing habitat, and wintering areas? How much of the remaining route is sage grouse habitat? What mitigation plans would be implemented to reduce the significant impact on sage grouse to nonsignificance?

IN2-72 b. The WyCal environmental report (Exhibit Number WC 3B) indicates that 15 miles of nesting and summer habitat of the sandhill crane would be disturbed while the supplement to the FEIS states that only 0.6 miles of sandhill crane breeding/nesting habitat would be disturbed. Please explain why there is such a large discrepancy between the two documents.

IN2-73 c. Given that some amount of sandhill crane breeding, nesting, or summer habitat will be disturbed, what impact will this disturbance

IN2-71 This is the potential disturbance to nesting sage grouse and potential loss of nests and/or young. This 3.9 miles comes directly from Table 3.1-5 on page 3-7 of the Draft Supplement. No leks, important brood rearing habitat or wintering areas have been identified along the new WyCal portion of the pipeline route. See the FEIR/S (Volume II, page 3-46) for a discussion of any of these important sage grouse habitats that occur along portions of the WyCal route that is the same as the Kern River route. Also, see Mitigation Measures 80, 89, and 91 in Volume III.

IN2-72 See response to WY-20.

IN2-73 At present it is not known how many pairs of sandhill cranes nest within the proposed ROW. It would be premature and infeasible to attempt a quantification of nesting data at the present time. It can be assumed that disturbance to nesting sandhill cranes will not extend beyond 1/2 mile, and in actuality, disturbance to nesting sandhill cranes would probably be less than 1/4 mile from construction sites and within line-of-sight. Loss of habitat would be minimal (approximately 7 acres) and would not be a significant impact. Revegetation mitigation measures presented in the FEIR/S, Volume III would restore lost habitat. No specific mitigation measures have been proposed for sandhill cranes; however, other measures of spatial and temporal avoidance, and revegetation as stated in the FEIR/S, Volume III. See

IN2-73 (cont.) have on the sandhill crane? For example, how many nesting pairs occur within the area to be cleared for the ROW? Given that it has been documented that sandhill cranes are very sensitive to human disturbance, how much habitat adjacent to the cleared ROW will be impacted? Will any special measures be implemented to restore damaged sandhill crane habitat? What mitigation plans have been proposed specifically for the sandhill crane?

IN2-74 d. Given the almost total lack of analysis of impacts on the sandhill crane, how can FERC Staff state that these impacts are Class II (i.e., the impacts can be mitigated or avoided)?

IN2-75 e. The number of raptor nests (nine) that would occur along the proposed route as listed on page 4-22 is likely to be a gross under-estimation. Various studies of nesting raptor densities indicate that one nest per two square miles may be a realistic estimate which would translate into 27 nests along the 55 mile, mile-wide study corridor.

IN2-74 The level of analysis is sufficient to identify the potential problem to sandhill cranes (disturbance during breeding and potential loss of nests). As stated for the response to IN2-73, sufficient mitigation measures are presented to alleviate impacts to sandhill cranes through temporal construction constraints.

IN2-75 In Wyoming, all raptor information for the Draft Supplement was gathered from direct review of BLM, Kemmerer Resource Area wildlife overlay maps, Wyoming Game and Fish wildlife maps, and interviews with BLM and WG&F area wildlife biologists that have direct first-hand knowledge of the potentially affected area. This may be an under-estimation of present nesting sites along the route, but it is the best estimate possible at this level of examination. No on-site surveys have been conducted for raptors for document preparation. Raptor surveys have been recommended in the mitigation section (FEIR/S, Vol. III). This would be accomplished once a pipeline route has been selected, and a detailed route has been designed and staked on the ground.

IN2-76 Based on the above analysis of the impacts presented in Section 4.2.7.2, it is clear that the said impacts are based on incomplete information and on insufficient analysis of information that was available. However, this fact was not pointed out in the SEIS, and the reader is expected to believe that the impacts analysis presented in Section 4.2.7.2 is complete. This runs counter to CEQ guidelines which state that "when an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking" (Section 1502.22(b)(2)); the agency shall include a summary of existing credible scientific evidence which is relevant (Section 1502.22(b)(3)). None of this information was included in the draft supplement to the FEIS.

IN2-77 3. Finally, CEQ guidelines stipulate that indirect impacts need to be assessed in an EIS. (Section 150216(b)). No such analysis is provided in Section 4.2.7.2 of the SEIS. Potential direct impacts from dust, noise, and human activity during construction after construction (i.e., ORV and/or snowmobile use) need to be included in the Supplement.

IN2-76 See response to IN2-11. Where information is lacking, these were identified in both the FEIR/S and the Draft Supplement.

IN2-77 All significant indirect impacts were addressed in the FEIR/S and the Draft Supplement. Section 4.2.7.2 of the Draft Supplement specifically referenced FEIR/S, II/4.2.7.2.

BB. Section 4.2.8.1 (page 4-25)

IN2-78 1. The SEIS fails to analyze many secondary impacts such as growth inducement and the municipal and economic impacts resulting from growth.

CC. Section 4.2.10 (page 4-37)

IN2-79 1. Substantial portions of the Kern River and Mojave routes received no meaningful assessment for the existence of cultural resources. In utilizing twenty-five mile "sensitivity segments," it was demonstrated that many segments, including hundreds of miles of consecutive segments, were "uncertain." The failure of the FEIS to include adequate cultural resources data for the Kern River and Mojave proposals means that the cultural resources data available for the WyCal project are also inadequate.

DD. Section 4.2.10.1.2 (page 4-38)

IN2-80 1. Staff should relocate the Hams Fork metering and microwave station in order to avoid known cultural resources. The Supplement must include the exact station locations and the schedule for conducting a Class III inventory of these locations.

EE. Section 4.2.10.3 (page 4-39)

IN2-81 1. How many cultural resource segments of the overall WyCal Mainline have been classified as Uncertain (less than 2% survey coverage)? What percentage of the total WyCal

IN2-78 Growth inducing impacts were addressed in Section 4.9. Municipal and economic impacts resulting from some unknown amount of growth in unknown areas and unknown industrial sectors would be pure speculation.

IN2-79 See response to IN2-1.

IN2-80 Any relocation of facilities for cultural resource reasons will be done subsequent to the studies called for by Mitigation Measure No. 106.

IN2-81 Fourteen of the WyCal segments have a cultural sensitivity ranking of uncertain. This represents 35% of the proposed route. This information was obtainable from Volumes I, II, and VI.

IN2-81 (cont.) pipeline is classified as Uncertain? This information should be in the SEIS.

FF. Section 4.2.12 (page 4-40)

IN2-82 1. The FEIS fails to assess visual impacts with respect to the entire Kern River and Mojave pipeline routes. Instead, the visual impacts analysis is limited to federal lands and limited additional private lands. This is a matter that must be corrected in the Supplement and issued in the form of a draft. The importance of visual impact analysis is well recognized in that they are commonly an integral part of an EIS and, in fact, are an integral part of the FEIS. This point is not in dispute and there is no evidence as to why the visual impacts on lands other than federal lands are not worthy of consideration in the FEIS.

GG. Section 4.3.1.10 (page 4-61)

IN2-83 1. Cultural resources cannot be utilized for comparison of the three WyCal Wasatch Variation Alternatives due to the fact that none of the alternatives has been inventoried at an intensity greater than 2% and no sites have been recorded within the analysis corridor of any of the three alternatives.

HH. Section 4.3.2.7.1 (page 4-67)

IN2-84 1. This section indicates that 503 acres of desert shrub habitat would be cleared in the WyCal section of the North Las Vegas Variation. However, Section 3.1.7.1 indicates that

IN2-82 See response to IN2-1.

IN2-83 Thank you for your perspective.

IN2-84 Comment accepted. See changes to Section 4.3.2.7.1 of Volume VI.

IN2-84 (cont.) wetland/riparian vegetation occurs along the proposed route. The number of acres of wetland/riparian habitat that would be cleared should be included in Section 4.3.2.7.1.

II. Section 4.3.2.7.2 (page 4-70)

IN2-85 1. On page 4-70, it is indicated that the North Las Vegas variation would result in the loss of 65 acres of crucial desert tortoise habitat along 4.5 miles of the proposed route. However, section 3.2.2.7.2 states that the proposed route would traverse 40 miles of crucial desert tortoise habitat. Please clarify this contradiction.

2. The impacts analysis regarding the desert tortoise and desert bighorn sheep is incomplete and, at least in two instances, misleading. The analysis is incomplete in the following areas:

IN2-86 a. This route will result in the destruction of desert tortoise habitat and yet no analysis of the impacts of habitat destruction on this species is provided. For example, the impact of construction of a pipeline ROW on long-term productivity of the local population should be discussed. In this regard, the Desert Tortoise Council in their comments on the DEIS, expressed the opinion that construction of a pipeline will have a

IN2-85 The impact analysis is correct for the portion of the North Las Vegas Variation not previously described in the FEIR/S. The discrepancy noted in Section 3.2.2.7.2 is that the 40 miles of crucial desert tortoise habitat delineated in this section refers to the total that the proposed North Las Vegas Variation would cross; this includes the portions of the pipeline previously analyzed in the FEIR/S. To eliminate this discrepancy, see change to Vol. VI, Section 3.2.2.7.2.

IN2-86 See response to IN2-1.

IN2-86 (cont.) negative impact on the long-term productivity of this species. The Supplement should provide an estimate of the magnitude of impact on the long-term productivity of the populations of desert tortoise that will be negatively impacted by this project.

IN2-87 b. The SEIS to the FEIS acknowledges that the disturbance of 4.5 miles of crucial summer habitat of the desert bighorn sheep is a Class II impact. Furthermore, as stated in Section 3.2.2.7.2, the proposed route would traverse a total of 23 miles of bighorn sheep habitat. However, there is no mention of the impact habitat disturbance would have on the bighorn sheep. Would the proposed pipeline impact lambing areas or migration routes? If it did impact these areas, what would that impact be?

3. The impacts analysis on desert tortoise is misleading in the following areas.

IN2-88 a. As mentioned above, it is indicated on page 4-70 that 4.5 miles of crucial desert tortoise habitat would be impacted while on

IN2-87 Habitat disturbance to bighorn sheep would be a Class III (adverse impact) as defined by the criteria categories presented in the FEIR/S, II/pages 4-41 and 4-42. Since this is not a significant impact, it is not delineated in Volume VI. No bighorn sheep lambing areas or migration routes have been delineated along the proposed North Las Vegas Alternative. If lambing areas or migration routes were crossed by the proposed route, the impacts would include the potential for direct loss of individuals due to unintentional crushing or impact by heavy equipment (Class II impact), and increased stress on animals during a crucial period of their life cycle due to construction activity disturbances (Class II impact). The former is a short-term impact that would not significantly affect the viability of the local population. The latter impact could result in poor lamb production (population recruitment), reduced health and vigor of ewes, and disruption of migration patterns that also could reduce the health and vigor of the local population. These are long-term impacts to the local populations.

IN2-88 See response to IN2-85.

IN2-89 page 3-44 it states that 40 miles of crucial desert tortoise habitat would be impacted.

b. ORV impacts are assumed to be Class II impacts in that signs and gates would be effective in preventing access to the new ROW. This is misleading in that, in the first place, no backup data or references to other studies are provided that would support the contention that the proposed mitigation measures would prevent ORV access to the new ROW. Secondly, our analysis indicates that such studies have not been conducted. Given this, it would appear that the assertion that ORV impacts are Class II impacts is not consistent with the CEQ guidelines which state that agencies shall make it clear when information it uses to project impacts is incomplete or unavailable (Section 1502.22) and that agencies shall insure the professional integrity, including scientific integrity, of the discussions and analyses in the EIS (Section 1502.24). Available evidence indicates that mitigation measures proposed by FERC to limit ORV

IN2-89 See response to IN2-1.

IN2-89 (cont.) access to the ROW will not work. This relates particularly to the CEQ guidelines Section 1502.22 referenced above in that it is incumbent upon the agency to insure the scientific integrity of the EIS which would include acknowledging the fact that these mitigation measure may not work. It is our position that the proposed mitigation measure to limit ORV use of the ROW will not work and that potential ORV impact should be considered a Class I impact. Further, the impacts of ORV users along the ROW (i.e., increase habitat destruction, direct mortality to wildlife from crushing and shooting, collecting, indirect impacts of noise and human activity, etc.) should be analyzed in the Supplement.

JJ. Section 4.3.2.10 (page 4-72)

IN2-90 1. Although Ivanpah and Roach Lakes are predominantly outside of the study corridor, their nearness is used to justify moderate sensitivity rating of Segment 5 of the WyCal North Las Vegas Variation, even though the site density within the study corridor is low. What justification is there for the assumption that site density will be higher in the vicinity of

IN2-90 See response to WY-48.

IN2-90 (cont.) Ivanpah and Roach Lakes? Have previous surveys outside the analysis corridor indicated that site density is high in these areas or was this determination based on the presence of major water sources, even though outside of the study corridor?

IN2-91 2. Comparisons and evaluations of cultural resource sensitivity segments cannot be made given the inconsistency of the analysis corridor in Segments 5 and 6. The analysis corridor in these segments is particularly centered along proposed pipeline routes and practically one mile to the east of the pipeline. Data must be made available concerning cultural resources in California in the vicinity of the pipeline.

KK. Section 4.4 (pages 4-74 and 4-76)

IN2-92 1. The WyCal project proposes to serve not only EOR customers but also non-EOR customers in Kern County and elsewhere. Thus, even if the EOR market is limited so that only one interstate pipeline would be constructed to serve EOR markets, WyCal's proposal to serve non-EOR customers increases the possibility that it also could be certificated and built to serve EOR and other markets.

IN2-93 2. The Staff concludes that it is not reasonably foreseeable that more than one pipeline may be built. However, Staff admits that it has conducted and takes no position on market projections and need for the project. Therefore, it

IN2-91 See response to KR-12.

IN2-92 Thank you for your perspective.

IN2-93 The environmental staff takes no position on market projections and need. That does not imply other staff did not examine these issues, as was discussed in Section 1 of the Draft Supplement.

provides no basis for concluding one way or the other if it is reasonable or not for more than one pipeline to be constructed.

IN2-94 3. One of the key reasons that the WyCal EIS must address the entire length of the pipeline route is the failure of the underlying FEIS to assess the potential cumulative impacts of the construction of more than one of the proposed pipelines. Cumulative impacts are defined as environmental impacts resulting from the "incremental impact of the action when added past, present, and reasonably forseeable future actions." 40 C.F.R. § 1508.7.

The cumulative effects of the construction of the WyCal and Kern River projects and the WyCal and Mojave projects would pertain only to those portions of the WyCal project not addressed in the supplemental EIS. Therefore, the issue has still not been addressed and will not be unless a new draft supplement is prepared.

Unless the cumulative impacts analysis is performed on the construction of more than one of the proposed pipelines, it is not legally possible to issue multiple certificates. Once multiple certificates are issued, there can be no question but that, pursuant to NEPA and CEQA, the real possibility exists that more than one pipeline will be constructed.

If the supplement ignores the cumulative impacts of all of those portions of the WyCal route that parallel the Kern

IN2-94 The Draft Supplement does address the entire length of the route. It simply utilizes the FEIR/S as a base source and supplements it as necessary. This is called "tiering". The rest of the comment deals with issues already addressed in Section 4.4 of the Draft Supplement.

IN2-94 (cont.) River and Mojave routes, the EIS will be virtually worthless. A comprehensive analysis of the entire length of all projects is mandated.

FERC Staff and WyCal in their recent brief on environmental issues have argued that cumulative impact assessments need not be provided so long as individual impacts are known, because such impacts can be added. This approach ignores the fundamental concept of a cumulative impacts analysis which is to identify the incremental impact of an action. The increment and the potential to cross some threshold impact are the important elements. If the FEIS concludes the San Joaquin Valley threatened and endangered species, such as the kit fox, can withstand the pressures of one project, we certainly cannot conclude that it can withstand the pressures of two projects.

The concept of additive impacts as presented by FERC Staff and WyCal is imaginative but meaningless. Both Staff and WyCal have attempted to obscure the fact that the importance of a cumulative impacts analysis is to evaluate such threshold questions and synergistic effects by proposing that, because some impacts would be less than additive, that impacts that are greater than additive and those that are less than additive will cancel each other out. Their theory is absurd and is based on nothing more than their own convenience. It does not take a trained biologist or anthropologist to understand that the less

IN2-94 (cont.) than additive impacts to cultural resources, for example, cannot "cancel out" the greater than additive impacts for other resources. This twisted logic could result in disasterous consequences.

IN2-95 4. Section 4.4 does not list aquatic resources as a resource which would sustain measurable cumulative impacts, yet "the WyCal route would have significant impacts to freshwater biology at 14 stream crossings" (WyCal Supplement, Volume II Supplement, page 1-76), and "these would be short-term impacts to fresh water biology during construction; some long-term significant impacts are anticipated" (Volume VI, Table 4.7-1). Aquatic resources should be included as a resource which would sustain measurable cumulative impacts from pipeline construction.

IN2-95 Comment accepted. See change to Section 4.4 of Volume VI.

IN2-96 5. The treatment of cumulative environmental impacts remains superficial and inadequate. An analysis of the information presented in the EIS would not provide resource agencies with an ability to make an informed decision regarding the granting of project permits.

IN2-96 Thank you for your perspective.

IN2-97 6. Cumulative impacts have not been adequately addressed for the Wyoming or North Las Vegas Alternative Segments of the WyCal pipeline, nor have they been adequately addressed for other portions (i.e., Kern River and Mojave) of the WyCal project. The two areas of potential cumulative

IN2-97 Staff disagrees. Cumulative impacts associated with multiple pipelines and other major projects are presented in the FEIR/S and Section 4.4 of the Draft Supplement.

IN2-97 (cont.) impacts are: 1) multiple pipelines, and 2) other major projects. Neither has been adequately addressed in WyCal's Application or subsequent testimonies. WyCal has stated in response to SoCalGas Data Request 157(e) that "Schedule 3 of WyCal's Exhibit No. WC-3B . . . (i.e., Cumulative Impact Assessment of the Proposed Wyoming-California Pipeline Project) . . . was a general discussion of the kinds of cumulative impacts associated with more than one pipeline being built." The word "discussion" as used in the data request response seems appropriate since cumulative impacts were not analyzed by WyCal and no useful information was presented by WyCal in Schedule 3 of Exhibit No. WC-3B in subsequently prepared responses to data requests, or finally in Volume VI (WyCal's Supplement), that would allow any kind of meaningful assessment to be made concerning cumulative impacts on aquatic resources resulting from multiple pipelines or other major past, present or reasonably foreseeable future projects. Therefore, the EIS for the WyCal Project appears incomplete.

LL. Table 4.8-1 (page 4-87)

IN2-98 1. It is admitted that disturbance or destruction of cultural resources would be both an irreversible and irretrievable commitment of resources. Nevertheless, Table 4.6-1 (page 4-83) concludes that there will be no residual significant impact if mitigation measures 106 and 107 are implemented.

IN2-98 Mitigation Measure No. 106 will cover indirect impacts within the context of the cultural resource management plan.

IN2-98 (cont.) Mitigation measures 106 and 107 do not include any provisions for the location of sites within any indirect impact zone, or for the mitigation of impact to sites outside of the construction area either during or after construction activities (short and long-term impacts). Locational and mitigation measures must be proposed for indirect impacts to cultural resources outside of the direct construction zone on the WyCal project.

IN2-99 2. There appears to be an inconsistency between Tables 4.8-1 and 4.6-1 in terms of project impacts on riparian vegetation. Table 4.8-1 states that riparian habitat might not recover to its former state, and further states that the commitment of vegetation resources resulting from the project would be irretrievable. However, Table 4.6-1 states there would be no residual significant impact. The staff should explain this apparent discrepancy.

IN2-100 MM. Section 4.9 (page 4-88)

1. Section 4.9 fails to address impacts on the natural environments, particularly the secondary impact which would potentially occur on water quality and plant and animal communities.

IN2-99 It is staff's opinion that while some riparian habitat may not recover, this is not an irreversible (i.e., significant residual) impact.

IN2-100 See response to IN2-78.

III

SPECIFIC COMMENTS

APPENDICES

A. Appendix B

IN2-101 1. Appendix B of Volume VI, Plant Species of Special Concern, appears to disagree with Section 3.1.7.1 regarding the milk vetch, *Astragalus geyeri* var. *triquetrus*. Appendix B shows only one plant species of special concern in Wyoming, locoweed (*Astragalus jejunus*). This inconsistency should be corrected.

B. Appendix D

IN2-102 1. Mileposts on maps in Appendix D do not compare accurately with Volume VI of the FEIS. (Example: Compare Jordan River and Rudy Drain on maps 9, 14 and 18 versus mileposts for same on Table 3.2-2).

IN2-103 2. Descriptions of hydrology on maps in Appendix D frequently state that groundwater is at the surface in places. However, there is no corresponding vegetational characteristic, such as wetland or riparian, associated with these places. Also, the "places" are not mapped, nor are they designated in the table or text in the Volume VI Supplement.

IN2-104 3. Appendix D provides hydrology, geology, soils, vegetation, wildlife, land use, and land ownership data along proposed pipeline routes. The aquatic resources (or "freshwater

IN2-101 Comment accepted. See change to Section 3.1.7.1 of Volume VI.

IN2-102 The accuracy of the maps with regard to specific locations along the pipeline route are generally adequate. Any differences are felt to be minor.

IN2-103 The small areas where groundwater occurs at the surface could not be portrayed on this map scale.

IN2-104 Aquatic resources are associated with specific stream crossings. Details on the maps were not provided but can be determined by examining the hydrology line and aquatic resource tables.

IN2-104 (cont.)	biology") are not shown. Provision is therefore not made to highlight important or sensitive aquatic environments on the routing maps. This should be corrected so that aquatic resources/freshwater biology data are presented on Volume VI maps.		
IN2-105	4. The wetland/riparian notation on Map 9 of Appendix D does not appear to correlate either with drainage systems noted for the hydrology category or with topographical or other features on the map. Please clarify/correct.	IN2-105	The map is correct. This segment of the pipeline route crosses the large wetland area associated with the confluence of the Jordan River with the Great Salt Lake. Therefore, wetlands occur along the total length of this segment, not just at the crossing of the Jordan River and the Rudy Drain.
IN2-106	5. Identification and quantification of wetland/riparian areas along the North Las Vegas Variation are inadequate in the WyCal Supplement. For the Affected Environment, wetland/riparian type vegetation is shown in Table 3.2-10 (Vol. VI, page 3-43) to occur only at milepost 126-127, yet Section 3.2.2.7.1 states that the route would cross several intermittent washes which support riparian vegetation. This inconsistency must be eliminated, and Appendix D should show the locations of riparian vegetation for this variation. Table 3.2-10 should list the mileposts associated with pipeline crossings of riparian habitat.	IN2-106	See response to IN2-57.
IN2-107	6. The EIS, including now the WyCal Supplement, fails to identify on either the maps (Appendix D) or in the text (Vol. VI) the numerous springs which occur along the proposed route, and further fails to describe these important areas in	IN2-107	Page 4-15 of the Draft Supplement identifies that no potential impacts to groundwater through MP 54.4 of the proposed route were identified. With respect to the remainder of the proposed route, see response to IN2-1.

IN2-107 (cont.) terms of their natural features and uses. In that much of the proposed route passes through arid areas, these locations are of high relative importance to wildlife and man alike.

IN2-108 7. Unnamed Drainage is not noted at BP 52 (Map 13 of 26, Appendix D), nor whether wetland/riparian vegetation is associated with this drainage at the location of pipeline crossing. Please correct the map and text of Volume VI.

IN2-109 8. As indicated in Appendix D, the pipeline routing for Pages Lane Alternative occurs within close proximity to wetland features (refer to Maps 8 and 9 between mileposts PL 47 and PL 53.3; Maps 12, 13, and 14 between mileposts BP 49 and BP 58.4; and Map 18 between mileposts W4 9 and 54). These wetland features and their associated biological resources should be described in detail in Volume VI and properly mapped in Appendix D.

IN2-110 9. Rudy Drain (and possible riparian vegetation) is not noted on Map 18 of Appendix D. Wetland/riparian vegetation is shown for this drainage on Map 9. Does the Wasatch Variation cross Rudy Drain at a location with wetland/riparian vegetation (Map 18)?

IN2-111 10. The Wasatch Variation appears to cross an unnamed drainage (tributary to the Jordan River?) at two locations which are not noted on Map 18. Wetland/riparian vegetation is not noted for the Jordan River and perhaps should be shown for these

IN2-108 Ground reconnaissance did not reveal a drainage nor associated wetland vegetation.

IN2-109 See response to IN2-108.

IN2-110 Rudy Drain was identified in the FEIR/S. See Errata in Section 1.5 of Volume VI.

IN2-111 Map 18 clearly identified wetland/riparian vegetation between MP 51 and 52.6, the interval which covers the Jordan River and the two associated unnamed drainages. This is completely consistent with the information presented in the FEIR/S, Volume II.

IN2-111 (cont.) unnamed drainages to the west as well. In fact, Table 3.3-4 of Volume II states that wetland/riparian vegetation occurs in the Wasatch Variation from MP 49 to MP 56, that is, along seven (7) miles of pipeline. Appendix D appears therefore to be grossly inconsistent with Volume II of the FEIR/S.

IN2-112 11. Appendix D and Volume VI do not agree in reference to mileposts and geographical features and should be corrected to compare exactly. An example of this discrepancy is the Bountiful Boulevard Alternative to the Wasatch Variation. Maps 4 and 5 of Appendix D note wetland/riparian vegetation in association with three drainages: Holbrook Canyon, Mill Creek, and North Canyon. Table 3.2-4 of Volume VI indicates only two areas of wetland/riparian vegetation: MP 43-43.5 and MP 44-44.5.

IN2-112 Comment accepted. See change to Table 3.2-4.

IN2-113 12. Appendix D mileposts do not agree with mileposts for pipeline routing as stated in Volume II of the FEIS. An example is the Wasatch Variation crossing of Hooper Canyon at milepost W 46.1 (Appendix D) versus milepost 45.2 (North Fork) or milepost 45.5 (South Fork) as stated in Volume II of the FEIS (Table 3.3-2, page 3-100). Furthermore, it appears from this information that WyCal has altered the Wasatch Variation since the route shown in Appendix D is not the same as that described in Volume II.

IN2-113 This apparent discrepancy resulted from differences in the map scales used between the FEIR/S and the Draft Supplement. There has been no change in the Wasatch Variation route.

IN2-114 13. What specific streams, reservoirs, and irrigation canals will be used as source waters for hydrostatic testing of the pipeline in Wyoming and Utah? How much water will be drawn from each of these sources and at what times of the year?

IN2-114 Specific sources have not been determined. See Table 2.2-3 of the Draft Supplement.

IN2-115 14. Volume VI and Appendix D (WyCal Supplement) both show only five (5) locations where the Hams Fork to Whitney Canyon portion of the Wyoming Segment crosses areas supporting riparian vegetation. Schedule 1 of Exhibit No. WC-3B (WyCal's Environmental Report Supplement) shows pipeline crossings at eleven (11) separate locations between Hams Fork and Whitney Canyons totaling 3.5 miles of riparian habitat that would be disturbed. Even more disturbing is the omission from Volume VI and Appendix D of the riparian vegetation indicated in Schedule 1 (Exhibit No. WC-3B) to occur at seven (7) separate locations between Whitney Canyon and the beginning of the Kern River route, totaling 3.3 additional miles of riparian habitat that would be disturbed in Wyoming.

IN2-115 The consultants who prepared the vegetation portion of this supplemental draft were hired to provide an independent assessment of wetlands along the proposed WyCal route, independent of the WyCal company as well as other advocates or opponents. Based on review of topographic maps and an overflight by fixed wing airplane, the only crossings which qualified as wetland are indicated on the maps. Many of the channels that would be crossed by the pipeline are intermittent or ephemeral and do not support vegetation or the necessary conditions to be considered a wetland. Many of the major drainages that would be crossed by the pipeline are ephemeral and never-the-less are given names (i.e., the fact that a channel or drainage is given a name does not imply that it is perennial).

IN2-116 15. The North Las Vegas Variation and the Wyoming Segment depicted graphically in Appendix D should be at the same scale as the Wasatch Variation and Alternatives (i.e., 1:24,000 rather than 1:100,000). Maps at the later scale are difficult to read and do not provide enough detail to be of much use.

IN2-116 Thank you for your comment.

IV

SPECIFIC COMMENTS

VOLUME III

A. Section 1.5.1 (pages 1-77, 1-79)

IN2-117 1. Although it is stated on page 2-7 of the Volume VI, WyCal Supplement, that "no new access roads are planned", this section states that "there is no vehicle access into most of the mainline route from MP 120 to 152." How is access planned in this 32 mile section?

Decisions concerning the access into this area and necessary cultural resource and biological inventories must be carried out prior to FERC certification. It is evident that major environmental impacts may result from the construction of these roads, including indirect impacts to cultural resources from increased new ORV access. These possible environmental impacts should be addressed and evaluated in the SEIS.

IN2-117 See response to IN2-1.

IN2-118 2. It should be emphasized that the sensitivity segment ratings on page 1-79 are based on the results of the Class I inventory. This inventory only documents the potential impacts to those sites which have been previously recorded in conjunction with inventories of less than 10% of the direct impact area. Over 90% of the construction area has not been examined for cultural resources.

IN2-118 Thank you for your comment.

IN2-119 3. Do the "compliance procedures" mentioned in the first paragraph on this page refer to Mitigation measures 106 and 107 of the FEIS or do they refer to agency-specific compliance requirements which will be specified after issuance of a FERC certificate? If the former, what specific procedures are proposed to identify and mitigate indirect impacts to cultural resources?	IN2-119 Both.
B. Section 1.5.2.1 (page 1-82, Volume III Supplement)	
IN2-120 1. It should be emphasized that there are no high sensitivity cultural resource segments present in either the alternative or the replaced portion of the route due to the fact that no cultural resource inventories have been carried out in either area and all segments are classified as Uncertain.	IN2-120 Thank you for your comment.
C. Section 1.5.2.3 (page 1-89)	
IN2-121 1. Has the Bountiful Peak Alternative been analyzed for visual impact where it parallels Skyline Drive? Why would visual impacts to this Panoramaland Motor Tour road occur only during the construction phase and be temporary?	IN2-121 Yes. See response to FA2-9.
D. Section 1.6 (page 1-102)	
IN2-122 1. The comparisons presented in this section are based on the results of the Class I overview, composed of existing records of inventories of 5% to 12% (Table 1.6-1) of the analysis corridor and previously recorded cultural	IN2-122 Staff agrees that Class III inventories will determine actual impacts and may be substantially different than Class I surveys; however, Class I surveys do provide a basis for comparison between proposals and between proposals and variations.

IN2-122 (cont.) resources. Actual impacts, which can only be determined by means of a Class III inventory, may be substantially different from those impacts discussed in this supplement. Thus, any comparisons of the interstate systems based on this Class I inventory are premature and do not reflect the actual impacts to cultural resources from construction of the interstate systems.

WHEREFORE, Southern California Gas Company submits the above comments to the FERC and SLC for their consideration in the Supplemental to the Final Environmental Impact Report/Statement.

Respectfully submitted,

By Joyce A Padleschat
for Michael D. Gayda

E. R. ISLAND
MICHAEL D. GAYDA
A. TODD LITTLEWORTH
MARK A. MINICH
JOYCE A. PADLESCHAT

Attorneys for
Southern California Gas Company
801 South Grand Avenue, Suite 1000
Los Angeles, California 90017
(213) 895-5134

DATED: September 12, 1988

Thank you very much.

[United States Borax and Chemical Corporation, c/o Luce, Forward, Hamilton, and Scripps]

LUCE, FORWARD, HAMILTON & SCRIPPS
A LAW PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS
FOUNDED 1873
1700 THE BANK OF CALIFORNIA PLAZA
110 WEST A STREET
SAN DIEGO, CALIFORNIA 92101
(619) 236-1414

TELECOPIER
(619) 232-8311

LA JOLLA GOLDEN TRIANGLE
REGENTS SQUARE II
4250 EXECUTIVE SQUARE, SUITE 700
LA JOLLA, CALIFORNIA 92037
(619) 455-6611

September 9, 1988

VIA FEDERAL EXPRESS

Ms. Lois D. Cashell
Acting Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, D.C. 20426

Re: Wyoming-California Pipeline Co., Docket Nos. CP87-479-000, *et al.*; Mojave Pipeline Co., *et al.*, Docket Nos. CP85-437-000, *et al.* (Phase II)

Dear Ms. Cashell:

Enclosed for filing in connection with the Supplemental Environmental Impact Statement/Report that was issued in the above-referenced proceedings on July 25, 1988 are the original and fourteen (14) copies of the "Comments of United States Borax & Chemical Corporation on the Draft Supplement ("WyCal Supplement") to the Final Environmental Impact Report/Statement." Pursuant to the "Notice" issued by the Commission in this proceeding on July 25, 1988, these comments are being submitted to your office, to Mr. Robert Arvedlund of the FERC Environmental Evaluation Branch and to Ms. Mary Griggs of the California State Lands Commission.

I have also enclosed two (2) copies to be time-stamped and returned to me in the enclosed, self-addressed, stamped envelope.

Thank you for your attention to this matter.

Sincerely,

John W. Leslie

John W. Leslie
for
LUCE, FORWARD, HAMILTON & SCRIPPS

JWL:kan

Enclosures
cc: Mr. Robert Arvedlund (4 copies)
Ms. Mary Griggs (1 copy)

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Wyoming-California Pipeline Company) Docket Nos. CP87-479-000
CP87-480-000

Mojave Pipeline Company, et al.) Docket No. CP85-437-000, et al.

Kern River Gas Transmission Company, et al.) Docket No. CP85-552-000, et al.

COMMENTS OF UNITED STATES BORAX & CHEMICAL CORPORATION ON THE DRAFT SUPPLEMENT ("WYCAL SUPPLEMENT") TO THE FINAL ENVIRONMENTAL IMPACT REPORT/STATEMENT

On July 25, 1988, the Staff of the Federal Energy Regulatory Commission ("Commission") and the California State Lands Commission ("CSLC") issued a "Draft Supplement" to the Final Environmental Impact Statement/Report ("FEIS") that was issued in December 1987 in connection with the interstate pipeline applications of Kern River Gas Transmission Company ("Kern River") and Mojave Pipeline Company ("Mojave"). The "Draft Supplement" addresses the aspects of the interstate pipeline application of Wyoming-California Pipeline Company ("WyCal") that "deviate" from the Kern River and Mojave pipeline proposals. The Draft Supplement requested written comments by September 12, 1988. United States Borax & Chemical Corporation ("U.S. Borax"), an intervenor in both the consolidated Mojave Pipeline Co. proceeding and the WyCal proceeding, files these written comments to address the issue of the environmental impact of interstate pipeline service by WyCal to non-EOR industrial customers.

I.

BACKGROUND

U.S. Borax is an industrial user of natural gas which owns and operates an extraction plant and refinery located in Boron, Kern County, California. The nature of U.S. Borax' industrial operation is described in the "Written Comments of United States Borax & Chemical Corporation on Draft Environmental Impact Statement/Environmental Impact Report" that are included in Volume V (pages IN-81 through IN-109) of the FEIS.

The WyCal application was filed on August 4, 1987 under the optional expedited certificate ("OEC") procedures of Subpart E, Part 157 of the Commission's regulations, 18 C.F.R. § 157.100, et seq. (1988). WyCal seeks authority to construct and operate an interstate pipeline and to provide transportation service to customers located in the proximity of the interstate pipeline route. In its application, WyCal states that it will be a nondiscriminatory, open-access transporter of gas under Subpart G, Section 284.221 of the Commission's regulations. Specifically, WyCal states that it intends to:

> (a) serve the requirements of the enhanced oil recovery ("EOR") operations in the heavy oil fields in Kern County, California, and (b) serve such other natural gas requirements which may be in the proximity of the proposed pipeline system.

WyCal application at p. 2.

On December 14, 1987, the Commission issued a "Notice of Intent" to supplement the FEIS on the Kern River/Mojave pipeline applications that was published on December 18, 1987. In this Notice, the Commission indicated that the WyCal Supplement would only address those areas of the WyCal proposal that "deviate" from the Kern River/Mojave proposals. The Commission requested that written "scoping" comments be filed by January 14, 1988.

On January 13, 1988, U.S. Borax filed comments on the prospective scope of the WyCal Supplement. In view of WyCal's stated intent to provide transportation service to EOR and non-EOR customers alike, U.S. Borax urged the Commission Staff and the CSLC to address the positive environmental impacts of service to non-EOR customers. U.S. Borax urged that the WyCal Supplement include consideration of the socio-economic benefits of interstate pipeline service to non-EOR customers as well as the ecological and geographical impacts of such service. U.S. Borax noted, for example, that to the extent U.S. Borax and other non-EOR industrial customers are able to burn natural gas rather than fuel oil in their operations, air quality in the Kern County area will improve and agricultural production will be enhanced.1/

On July 25, 1988, after receiving written scoping comments and after holding a series of scoping meetings, the Commission Staff and the CSLC issued the Draft WyCal Supplement. The Draft Supplement provides that the final WyCal Supplement will not address issues that were discussed in the FEIS, but rather will be limited to the differences between the WyCal proposal and the Kern

---

1/ A copy of U.S. Borax' January 13, 1988 "Scoping Comments" is attached hereto as Exhibit A.

River/Mojave proposals. In particular, the Draft Supplement provides:

> Issues that were previously discussed in the FEIR/S such as project need, firmness of service, and service to non-EOR users are not being supplemented and are outside the scope of this Supplement. THE STAFF DOES NOT INTEND TO ALLOW THIS SUPPLEMENT TO RESURRECT OLD ISSUES NOR ENTERTAIN COMMENTS ON OLD ISSUES.

Draft Supplement at p. 1-9 (emphasis included).

IN3-1 In conformity with the foregoing direction, U.S. Borax submits these comments in order to request slight modifications to the Draft Supplement. U.S. Borax requests that the Draft Supplement be revised to recognize that the WyCal application, unlike the Mojave and Kern River applications, seeks Commission authority to provide transportation service to non-EOR customers as well as EOR customers. In U.S. Borax' view, this constitutes a "deviation" from the Kern River and Mojave proposals that is likely to enhance the environmental benefits of a new interstate pipeline. U.S. Borax submits that it is appropriate for the Commission Staff and the CSLC to address the enhanced environmental benefits that are likely to arise from expanded service to non-EOR customers as well as EOR customers.

II.

THE FINAL WYCAL SUPPLEMENT SHOULD ADDRESS THE ENVIRONMENTAL IMPACT OF SERVICE TO NON-EOR CUSTOMERS TO THE SAME EXTENT AS IT ADDRESSES THE ENVIRONMENTAL IMPACT OF SERVICE TO EOR CUSTOMERS

In the FEIS, the Commission Staff and the CSLC concluded that because there is insufficient information on the precise location and extent of the delivery lines that will be necessary to connect the Kern River and Mojave interstate pipelines with individual EOR

IN3-1 Pages 1-6 and 1-7 recognized that WyCal sought authority to provide service to non-EOR customers. An additional change has also been added to Vol. VI, Section 1.2 to reflect this.

end-users, it is impossible to include an analysis of the environmental impact of such delivery lines in the FEIS. The FEIS provides:

> Construction of new gas delivery lines would create the environmental impacts typically associated with such construction. Construction impacts would be localized, of short duration and, due to the fact that many gas and oil delivery lines already exist in Kern County, are not likely to be significant. In many cases, they could be confined to existing rights-of-way. At this stage of the projects, it is impossible to predict how many such lines would be constructed or where they would be built.

FEIS, Volume I, pp. 1-6.

The Commission Staff and the CSLC also recognized in the FEIS that non-EOR customers have requested service from Kern River and Mojave. The FEIS indicated, however, in response to comments by U.S. Borax on the non-EOR issue, that the interstate pipeline applicants have not applied to provide service to non-EOR shippers and thus it is premature to predict where delivery lines to non-EOR customers would be located. The FEIS stated:

> Given the demands for service being voiced by gas users who are not EOR producers, it is possible that new facilities would be required to connect the interstate pipeline to the systems of the local utilities for delivery to non-EOR customers. As in the case of gas delivery lines, it is premature to speculate on how many such facilities would be built or where they would be located. This is particularly true since none of the interstate pipeline applicants has formally applied for authority to serve non-EOR customers. It is reasonable to assume, however, that any delivery lines for service to non-EOR customers would be similar in character to those needed for service to EOR customers. In addition, FERC approval would be needed and the

> environmental impacts would be analyzed at that time.

Id.

IN3-2 U.S. Borax agrees with the FEIS' conclusion that delivery lines for service to non-EOR customers in the Kern County area will be substantially similar to delivery lines for service to EOR customers. Moreover, U.S. Borax agrees with the conclusion that it is "premature" for the Commission to undertake a detailed analysis of the environmental impact of construction of delivery lines to individual end-users because it is not possible to know the location and extent of such facilities. On this basis, U.S. Borax filed a brief in the "Phase II-A" environmental phase of the Mojave proceeding in which it argued that the EIS adequately addresses the environmental impact of construction of delivery lines and related facilities. Under a "rule of reason" approach (see Enos v. Marsh, 769 F.2d 1363, 1372 (9th Cir. 1985)), U.S. Borax urged that "it would be a waste of the Commission's resources to undertake [an analysis of the construction of individual delivery lines] prior to the identification of specific transportation customers." Mojave Pipeline Co., et al., "Concurrent Initial Brief of Intervenor United States Borax & Chemical Corporation on Phase II-A Environmental Issues" at pp. 11-12 (filed August 22, 1988).

In the Draft Supplement, the Commission Staff and the CSLC also recognize that any analysis of the environmental impact of construction of delivery lines to individual EOR-customers is premature. The Draft Supplement provides:

> The FEIR/S recognized that certain impacts associated with the construction and operation

IN3-2 Staff agrees.

> of drilling rigs, wellhead equipment, gathering lines, treatment plants, field compression units, delivery lines, and access roads are unknown at this time. At this stage in the projects, it is simply too early to describe the extent of such new facilities or their specific locations. For example, the number, size, and locations of gathering lines and distribution facilities will depend upon the future actions of EOR operators, gas suppliers, gas distributors, federal and state regulations, gas brokers, and interstate pipelines. Until the extent, nature, and location of any new facilities is known, which is not expected to occur until after a FERC certificate is issued, their precise impacts cannot be analyzed.

IN3-3 Draft Supplement at pp. 1-9. As U.S. Borax has noted in connection with the FEIS, this assessment with respect to delivery lines and gathering lines is correct. Nevertheless, U.S. Borax submits that it is important for the final WyCal Supplement to acknowledge that the same conclusion that is drawn with respect to delivery lines to EOR customers should apply equally to delivery lines to non-EOR customers. The final WyCal Supplement should clearly recognize that WyCal seeks to provide transportation service to both EOR and non-EOR shippers. After all, the WyCal application provides that its "transportation service will be available on a non-discriminatory basis to any shipper who is desirous of such service." Application at p. 6; see also Application at p. 5.

IN3-3 Comment accepted. See Section 1.2 of Volume VI.

III.

THE FINAL WYCAL SUPPLEMENT SHOULD ADDRESS THE POSITIVE ENVIRONMENTAL IMPACTS OF INTERSTATE PIPELINE SERVICE TO NON-EOR CUSTOMERS LOCATED IN THE KERN COUNTY AREA

U.S. Borax also believes that it is appropriate for the Fianl WyCal Supplement to address the positive environmental benefits

IN3-4 that are likely to accompany interstate pipeline service to non-EOR customers. Because the WyCal application, unlike the Mojave and Kern River applications, expressly provides for service to non-EOR customers, an analysis of the environmental benefits associated with service to non-EOR customers is appropriate.

For example, the FEIS addressed the reduced sulphur dioxide and particulate emissions that will result from EOR producers switching from oil-fueled equipment to gas-fired equipment if an interstate pipeline is contructed. See FEIS, Vol. I at p. 1-7. The same positive environmental impacts resulting from reduced emissions will arise from interstate pipeline service to non-EOR industrial customers located in the Kern County area that are required to maintain alternate fuel-burning capability. To the extent that these non-EOR industrial customers enter into long-term firm transportation contracts with one or more of the interstate pipelines, they will not have to burn fuel oil in times of supply uncertainty or price instability.

Whether the alternate fuel burned by an industrial customer is crude oil, propane or No. 2 or No. 6 fuel oil, the environmentally preferred fuel is natural gas. The positive environmental benefits of interstate natural gas transportation service to EOR producers are multiplied when interstate natural gas service is also offered to non-EOR industrial customers in the Kern County area. Because WyCal affirmatively seeks to serve non-EOR customers as well as EOR customers, this environmental benefit of reduced emissions should be emphasized for non-EOR customers as well.

IN3-4 Futuristic economic benefits may be a positive secondary impact, although such future growth opportunities will have its own associated environmental impacts (positive and negative) which will be analyzed at that time. Both, however, would require speculative analysis at this time, which is not required by NEPA. Thank you for your comment. No changes to the document are required.

IN3-4 (cont.)

Similarly, the FEIS addresses the positive economic benefits that may arise from interstate gas pipeline service to EOR producers. The FEIS states:

> Conversion of oil-fired steam generators currently used for EOR to gas would result in a substantial increase in net production of crude oil, since crude oil now being burned as fuel in a ratio of one barrel in four would be available to be sent to refineries instead. In addition, the supplies of gas at economic prices may stimulate an expansion of crude-producing activities. This expanded crude production would require an expansion of transportation, handling, and refinery activity.
>
> . . .
>
> The project, by making it possible to ship large volumes of gas, would stimulate gas supply activities and may result in the development of new gas fields and facilities to extract, treat, and transport such gas to the pipeline.

FEIS, Volume I at p. 1-7.

In the same manner that interstate pipeline service to EOR producers creates the potential for increased crude oil production and associated economic benefits, extending interstate pipeline service to non-EOR customers creates the potential for additional economic benefits. For example, the testimony of Dr. Andrew Safir on behalf of U.S. Borax in Phase I of the *Mojave* proceeding (Exhibit BX-2) addressed a number of positive socio-economic impacts of interstate pipeline service to non-EOR industrial customers. Dr. Safir testified that market entry by an interstate pipeline would cause industrial customers' gas rates to become more competitive. This in turn would enable these industrial entities to be more competitive in their own markets, thus providing employment security for existing employees and providing

IN3-4 (cont.) the potential for industrial expansion and an increased employment base in California. Exhibit BX-2 at pp. 14-15.

In addition, Dr. Safir testified that the presence of an interstate pipeline in the Kern County area would encourage the entry of new industries, producing associated economic development in the Kern County area. Dr. Safir testified that the increase in jobs, income and tax revenues resulting from such industrial expansion would constitute a positive environmental impact. Exhibit BX-2 at pp. 14-15.

Finally, Dr. Safir testified that the certification and construction of an interstate pipeline would contribute to the "competitive strength of the overall U.S. economy." Exhibit BX-2 at p. 16. Dr. Safir testified that more efficient industrial operations resulting from competitive energy supply choices would enable businesses and industries in the Kern County area to compete more aggressively in national and international markets. To the extent that increased economic efficiency enables these industrial firms to compete for increased shares of world markets, the service provided by interstate pipeline would both directly and indirectly improve the nation's trade balance.

The cases are clear that the environmental impacts that may be considered in an EIS include socio-economic consequences. See, e.g., Chelsea Neighborhood Associations v. U.S. Postal Service, 516 F.2d 378, 388 (2d Cir. 1975); Hanley v. Mitchell, 460 F.2d 640, 647 (2d Cir.), cert. denied, 409 U.S. 990 (1972). In view of the fact that such issues were addressed in the FEIS in connection with interstate pipeline service to EOR producers, the WyCal

IN3-4 (cont.) Supplement should consider such issues as they arise from the WyCal application, which seeks to provide interstate transportation service to both EOR and non-EOR customers.

In response to U.S. Borax' comments in the FEIS on service to non-EOR customers, the Commission Staff and the CSLC stated:

> The staff does not agree that this EIR/EIS should cover service to existing or prospective non-EOR users of natural gas. Neither of the applicants [Kern River or Mojave] propose such service and the decision on which project should be approved should be based on what is proposed before FERC. NEPA does not contemplate studying scenarios which involve changes in the project's purpose . . . .

FEIS, Vol. V, p. IN-109. Because the WyCal application, unlike the Kern River and Mojave proposals, expressly seeks to serve non-EOR customers as well as EOR customers, it is appropriate for the final WyCal Supplement to address the positive environmental impacts of service to non-EOR customers. U.S. Borax requests that the final WyCal Supplement include consideration of the positive impacts of service to non-EOR industrial customers that may be served by WyCal.

IV.

CONCLUSION

For the foregoing reasons, U.S. Borax respectfully requests that the Commission Staff and the CSLC make whatever minor modifications and additions are necessary to ensure that the fianl WyCal Supplement recognizes that WyCal proposes to serve both EOR and non-EOR customers. This includes, but is not limited to, a discussion of the positive environmental and socio-economic benefits of expanding interstate pipeline service to non-EOR industrial customers located in the vicinity of the interstate pipeline route.

Respectfully submitted,

John W Leslie

Steven S. Wall
John W. Leslie
Luce, Forward, Hamilton & Scripps
110 West A Street
Suite 1700
San Diego, CA 92101

Attorneys for
United States Borax &
Chemical Corporation

Dated: September 9, 1988

t/COM102JWL

EXHIBIT A

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Wyoming-California Pipeline Company	)	Docket No. CP87-479-000
Mojave Pipeline Company	)	Docket No. CP85-437-000
Kern River Gas Transmission Company	)	Docket No. CP85-552-000

COMMENTS OF UNITED STATES BORAX & CHEMICAL CORPORATION WITH RESPECT TO THE PROPOSED SCOPE OF SUPPLEMENT TO ENVIRONMENTAL IMPACT STATEMENT

Pursuant to the Notice dated December 14, 1987 issued by the Federal Energy Regulatory Commission ("FERC"), interested parties have been requested to comment on the scope of the proposed supplement to the FEIS issued in Docket Nos. CP85-437-000 and CP85-552-000. United States Borax & Chemical Corporation ("U.S. Borax") hereby submits that, due to the nature of the WyCal Application, the Supplemental EIS must fully address the environmental issues relating to service to non-EOR customers of the proposed pipeline.

I

BACKGROUND

U.S. Borax owns and operates an industrial plant located in Boron, California, which is in the eastern part of Kern County and in close proximity to the proposed route of the WyCal pipeline. U.S. Borax' plant processes borates, which are mined in the immediate vicinity of the plant. U.S. Borax' Boron plar supplies approximately 53% of the free world's borate requirements.

U.S. Borax has significant energy needs in connection with its operation of the Boron plant. Energy costs are equal to about 20% of U.S. Borax' operating costs. U.S. Borax' current natural gas requirements are approximately 17-18 Mmcfd. In 198 U.S. Borax placed into operation a cogeneration facility that consumes 70% of the gas used by U.S. Borax on a daily basis. T other 30% gas consumed by U.S. Borax is used as a boiler fuel, process fuel and its fusing furnaces.

Historically, U.S. Borax has received natural gas service through purchases from Pacific Gas and Electric Company ("PG&E" under PG&E's retail rates schedules. Recent changes in the regulatory structure at the state and federal levels have enabl U.S. Borax to purchase gas directly from producers and have the gas transported over the interstate pipeline and California utility systems. U.S. Borax has attempted to take advantage of these new opportunities in order to reduce energy costs and to obtain a predictably priced and reliable supply of natural gas o a long term basis.

To this end, U.S. Borax intervened in Mojave and Kern River, the interstate pipeline Section 7(c) application proceedings at the FERC. U.S. Borax has previously submitted comments and evidence upon the scope and contents of the FEIS/FEIR in the Ker River and Mojave cases. As in those cases, U.S. Borax is an interested party in the proceeding involving the application of WyCal with the goal of obtaining firm, long term transportation

for its natural gas needs.

II

SERVICE TO NON-EOR INDUSTRIAL END USERS IS EXPRESSLY INCLUDED IN THE WYCAL APPLICATION

The environmental effects of service to U.S. Borax and other non-EOR customers by the proposed WyCal pipeline should be addressed specifically in the supplement to the EIS/EIR. In the previous FERC proceedings in connection with the Section 7(c) applications of Kern River and Mojave, the FERC Staff has focused primarily on the issue of service to the EOR market in Kern County. The Notice published by FERC on December 14, 1987 in the WyCal case needs to be viewed in light of the fact that the WyCal application is not limited solely to service to enhanced oil recovery and related cogeneration projects but also includes non-EOR industrial customers in the vicinity of the proposed pipeline.

The Application submitted by WyCal at page 2, in the section entitled "Authority for which a Certificate is Sought Pursuant to Sections 7(c) and 7(b) of the NGA," describes the proposed service as follows:

> WyCal, as more fully hereinafter set forth, proposes to construct and operate a major natural gas transmission system to transport natural gas to (a) serve the requirements of the enhanced oil recovery ("EOR") operations in the heavy oil fields in Kern County, California, and (b) serve such other natural gas requirements which may be in proximity of the proposed pipeline system. (emphasis added).

Again, in setting forth facts supporting the future public convenience and necessity to be served by the pipeline, WyCal stated:

> WyCal's proposal herein is required by the present and future public convenience and necessity as it serves the four-fold purpose of (1) meeting the market requirements for natural gas in the EOR operations in Kern County; (2) providing natural gas service to those industrial customers requesting natural gas transportation service in the proximity of the proposed facilities; (3) assisting in the reduction of foreign oil imports; and (4) improving the state of air quality through the substitution of natural gas for oil in the steam cogeneration operations in Kern County. Application, p.5. (emphasis added).

On page 5 of the Application, WyCal expressly acknowledge the present industrial demand for natural gas in Kern County in excess of the EOR demand:

> In addition to the natural gas requirements of the EOR operations, WyCal understands that there are additional demands for natural gas to meet the requirements of present industrial operations in Kern County which can be served by the instant project.

Finally, on page 6 of its Application, WyCal notes that under i 7(c) certificate, "such transportation service will be availabl on a non-discriminatory basis to any shipper who is desirous of such service." Clearly, the WyCal Application includes potenti service to non-EOR end users. On this basis, the environmental impacts of such are within the scope of issues to be considered in the supplement to the EIS/EIR.

III

THE PROPOSED SUPPLEMENT TO THE EIS/EIR SHOULD INCLUDE CONSIDERATION OF THE SOCIO-ECONOMIC BENEFITS ARISING FROM INTERSTATE PIPELINE SERVICE TO NON-EOR INDUSTRIAL CUSTOMERS

A consideration of the environmental effects of service to non-EOR customers by the WyCal pipeline should not be limited merely to the anticipated ecological and geographic impacts. Th

EIS supplement should contain an analysis of the socio-economic benefits which will derive directly from service to non-EOR customers by the proposed interstate pipeline.

As with EOR cogenerators, U.S. Borax faces the risk of either having to operate its facility on alternate fuel or curtail its operation in the event of an interruption in its long term natural gas supply. To the extent that U.S. Borax will be able to burn natural gas at all times at its Boron facility, to the exclusion of fuel oil, the resulting improvement of air quality is a significant societal benefit to the Kern County area which must be considered in the environmental calculus. One socio-economic consequence of the improved air quality is increased agricultural production that can be expected based upon reduced emissions from EOR producers and other industrial users operations. As noted in the written comments submitted by the Kern County Board of Supervisors in the Kern River and Mojave case, "crop yields can be expected to rise by 10 to 22 percent based upon improved air quality." Comments, p.2. Such increase is a significant factor in the environmental evaluation of service to non-EOR end users.

Service by an interstate pipeline to Kern County will provide broader economic benefits. For example, the availability of reliable gas at competitive rates to non-EOR industrial customers will make these industrial entities more competitive in their own markets, thus providing employment security for existing employees and providing the potential for industrial expansion and an increased employment base in California. In this connection, jobs, income and tax revenue resulting from such industrial expansion would also increase. Finally, the reduct of fuel costs to U.S. Borax and similarly situated non-EOR customers would enable these customers to be more competitive i U.S. and foreign markets with important consequences for the United States' balance of payments and trade deficit. This potential is particularly evident in the case of U.S. Borax, which is a major supplier in the world borate market.

All of these consequences represent positive environmental impacts which will result from service to non-EOR industrial customers by the proposed WyCal pipeline. These issues are wel within the scope of the proposed supplement to the EIS/EIR, and should be addressed by the FERC Staff and the California State Lands Commision.

IV

CONCLUSION

U.S. Borax hereby requests that the scope of the proposed supplement to the EIS/EIR specifically include the environmenta effects of service to non-EOR industrial customers located in proximity to the proposed pipeline route.

Respectfully submitted,

By:
Steven S. Wall
Steven W. Ellis
LUCE, FORWAD, HAMILTON & SCRIPPS
1700 The Bank of California Plaza
110 West "A" Street
San Diego, California 92101
(619) 236-1414

Attorneys for U.S. BORAX &
CHEMICAL CORPORATION

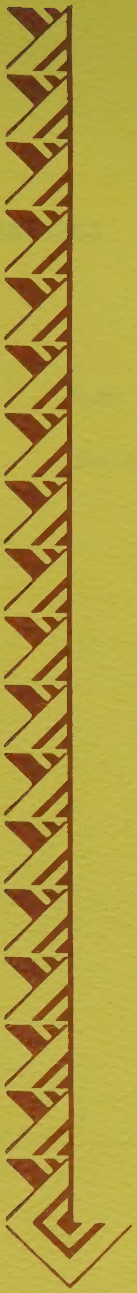
CERTIFICATE OF SERVICE

I hereby certify that I have this day served by first class mail copies of the foregoing COMMENTS OF UNITED STATES BORAX & CHEMICAL CORPORATION WITH RESPECT TO THE PROPOSED SCOPE OF SUPPLEMENT TO ENVIRONMENTAL IMPACT STATEMENT, counsel for the Federal Energy Regulatory Commission and to all counsel of record.

By:
Steven W. Ellis

LUCE, FORWARD, HAMILTON & SCRIPPS
1700 The Bank of California Plaza
110 West "A" Street
San Diego, California 92101
(619) 236-1414

January 13, 1988



Public Meeting Transcripts

PUBLIC MEETINGS

		Pages
PM1	Las Vegas Public Meeting	PM-1 to PM-6
PM2	Salt Lake City Public Meeting	PM-7 to PM-60

ORIGINAL

BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

In RE:)
WYCAL NATURAL GAS PIPELINE PROJECT)
Docket No.: CP87-479-000)

REPORTER'S TRANSCRIPT OF PUBLIC MEETING

Taken on Monday, August 22, 1988
At 7:05 o'clock p.m.
Clark County School District Board Room
At 2832 South Flamingo Road
Las Vegas, Nevada

Reported by: Paula C. Voyles, CSR No. 97

APPEARANCES:

For the Federal Energy Regulatory Commission:	LAURENCE J. SAUTER, JR. Environmental Engineer Federal Engergy Regulatory Commission Environmental Analysis Branch 825 N. Capitol Street, NE Washington, D.C. 20426 and ROBERT ARVEDLUND
For the State Lands Commission:	MARY GRIGGS

MR. SAUTER: Greetings. My name is Larry Sauter and I'm a project manager at the Federal Energy Regulatory Commission's Environmental Analysis Branch. On behalf of the Commission, I'd like to welcome you tonight.

Let the record show that the Las Vegas public meeting began at 7:05 p.m. on August 22nd, 1988. This meeting concerns a proposal put forth by Wyoming-California Pipeline Company in docket number CP87-479-000. This is one of two public meetings being held in the project areas to receive comments on the draft WYCAL supplement to the Mohave-Kern River-El Dorado final environmental impact report/statement which was issued on July 25th, 1988.

Tonight you've been invited to participate in a public meeting, the purpose of which is to receive comments on the draft WYCAL supplement. Like the Mojave-Kern River Feir/s, this draft supplement is a joint environmental document. Its sponsorship is shared by the FERC and State Lands Commission of California. Like the Mojave-Kern River Feir/s, the draft supplement was researched and written by an enviromental consultant under the supervision of the FERC and SLC technical staffs.

As before, a number of other federal and state agencies cooperated closely with the FERC and the SLC during the preparation of the draft supplement, including the Bureau of Land Management and the U.S. Forest Service.

Let me emphasize that this is not a public hearing For the discussion of the merits of WYCAL'S proposal. The project's merits are the subject of administrative proceedings which are ongoing before the Federal Energy Regulatory Commission. Neither is this an appropriate forum to discuss the Kern River or Mojave proposals, or those portions of the Kern River and Mojave routes which WYCAL proposes to follow. Our purpose tonight, and the one in which you can effectively participte, is to collect comments on the draft supplement.

Here to assist me in this endeavor is Mr. Arvedlund of the commission's technical and policy staff. We also have Ms. Mary Griggs to my right. As before, your comments tonight will be transcribed by our court reporter. This is because comments are very important to us and we want to have an accurate record.

You may also submit comments by mail. Either tonight or by mail. I would ask that you simply separate the comment page from the agenda, write down your comments, and follow the procedure outlined in the paragraph at the bottom of the agenda page. As you will note on both the agenda and the comment sheet, it is extremely important that the FERC receive all comments by September 12th, 1988. Any comments which are received after this date will not be addressed in the final WYCAL supplement.

This is because on August 2nd, the Commission issued an order which mandated that the final supplement would be prepared and issued by October 1st, 1988. To meet this deadline, there will absolutely be no exceptions to the rule that any comments received after September 12th will not be addressed.

I see that everyone has taken advantage of the sign-up sheet, so I won't go through that.

Having said that, let me begin the next portion of the program by calling on our first speaker. Are there any speakers in the audience?

(No response.)

MR. SAUTER: Seeing none, we'll take a five-minute recess, at which time we'll reassess. If there are no speakers at that time, the meeting will be adjourned.

(Whereupon, a recess was had.)

MR. SAUTER: If you'll take your seats, ladies and gentlemen.

We've had a brief recess. I'll once again pose the question. Are there any comments to be offered up by the public on the WYCAL Draft Supplement to the Mojave-Kern River-El Dorado Final Environmental Impact Report/Statement?

(No response.)

MR. SAUTER: Hearing no takers, I call this meeting to a conclusion. Thank you for coming out.

(Thereupon, the meeting was concluded.)

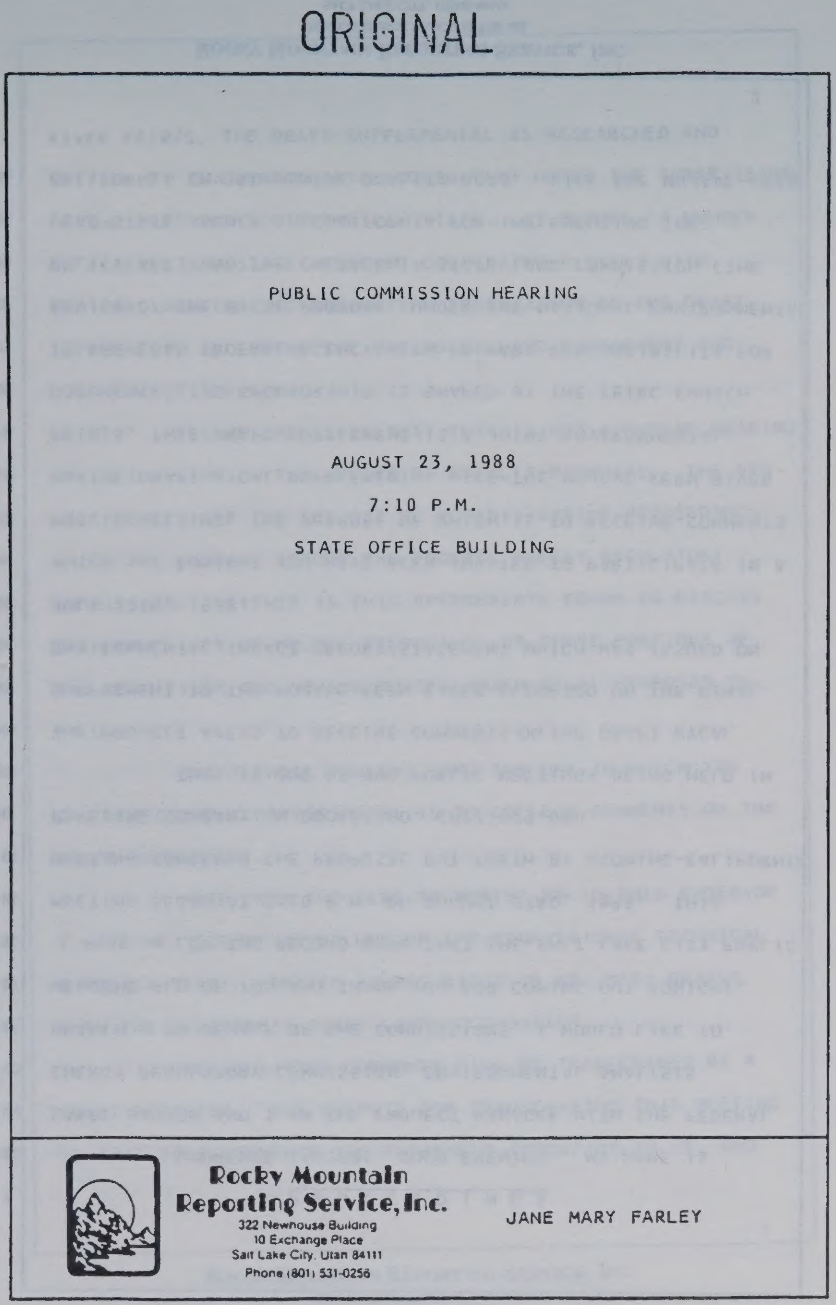
CERTIFICATE OF REPORTER

STATE OF NEVADA)
: ss.
COUNTY OF CLARK)

I, Paula C. Voyles, Certified Shorthand Reporter, do hereby certify: That I reported in shorthand (Stenotype) the proceedings had in the above-entitled matter at the place and date indicated. That I thereafter transcribed my said shorthand notes into typewriting, and that the typewritten transcript is a complete, true and accurate transcription of my said shorthand notes.

IN WITNESS WHEREOF, I have set my hand and affixed my official seal in my office in the County of Clark, State of Nevada, this 6th day of September, 1988.

Paula C Voyles
PAULA C. VOYLES, CSR NO. 97



ORIGINAL

PUBLIC COMMISSION HEARING

AUGUST 23, 1988

7:10 P.M.

STATE OFFICE BUILDING

Rocky Mountain Reporting Service, Inc.
322 Newhouse Building
10 Exchange Place
Salt Lake City, Utah 84111
Phone (801) 531-0256

JANE MARY FARLEY

[Salt Lake City Public Meeting]

PROCEEDINGS

LAURENCE SAUTER: GOOD EVENING. MY NAME IS LARRY SAUTER AND I AM THE PROJECT MANAGER WITH THE FEDERAL ENERGY REGULATORY COMMISSION, ENVIRONMENTAL ANALYSIS BRANCH. ON BEHALF OF THE COMMISSIONS, I WOULD LIKE TO WELCOME ALL OF YOU AND THANK YOU FOR COMING OUT TONIGHT.

LET THE RECORD SHOW THAT THE SALT LAKE CITY PUBLIC MEETING BEGAN AT 7:10 P.M. ON AUGUST 23RD, 1988. THIS MEETING CONCERNS THE PROPOSAL PUT FORTH BY WYOMING-CALIFORNIA PIPELINE COMPANY IN DOCKET NO. CP87-479-000.

THIS IS ONE OF TWO PUBLIC MEETINGS BEING HELD IN THE PROJECT AREAS TO RECEIVE COMMENTS ON THE DRAFT WYCAL SUPPLEMENT TO THE MOJAVE-KERN RIVER-ELDORADO ON THE FINAL ENVIRONMENTAL IMPACT REPORT/STATEMENT WHICH WAS ISSUED ON JULY 25TH, 1988.

TONIGHT YOU HAVE BEEN INVITED TO PARTICIPATE IN A PUBLIC MEETING, THE PURPOSE OF WHICH IS TO RECEIVE COMMENTS ON THE DRAFT WYCAL SUPPLEMENT. LIKE THE MOJAVE-KERN RIVER FEIR/S, THIS DRAFT SUPPLEMENT IS A JOINT ENVIRONMENTAL DOCUMENT. ITS SPONSORSHIP IS SHARED BY THE FEIRC (WHICH IS THE LEAD FEDERAL AGENCY WITH PRIMARY RESPONSIBILITY FOR REVIEW OF THE WYCAL PROPOSAL UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT) AND THE CALIFORNIA STATE LAND COMMISSION (THE LEAD STATE AGENCY IN CALIFORNIA FOR IMPLEMENTING THE CALIFORNIA ENVIRONMENTAL QUALITY ACT). LIKE THE MOJAVE-KERN

RIVER FEIR/S, THE DRAFT SUPPLEMENTAL IS RESEARCHED AND WRITTEN BY AN ENVIRONMENTAL CONSULTANT UNDER THE SUPERVISION OF THE FERC AND SLC TECHNICAL STAFF. AS BEFORE, A NUMBER OF FEDERAL AND STATE AGENCIES COOPERATED CLOSELY WITH THE FERC AND THE SLC DURING THE PREPARATION OF THE DRAFT SUPPLEMENT, INCLUDING THE BUREAU OF LAND MANAGEMENT AND U.S. FOREST SERVICE.

LET ME EMPHASIZE THAT THIS IS NOT A PUBLIC HEARING FOR DISCUSSION OF THE MERITS OF WYCAL'S PROPOSAL. THE PROJECT MERITS ARE THE SUBJECT OF ADMINISTRATIVE PROCEEDINGS WHICH ARE ONGOING BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION. NEITHER IS THIS APPROPRIATE FORUM TO DISCUSS THE KERN RIVER OR MOJAVE PROPOSALS, OR THOSE PORTIONS OF THE KERN RIVER AND MOJAVE ROUTES WHICH WYCAL PROPOSED TO FOLLOW.

OUR PURPOSE TONIGHT, AND THE ONE IN WHICH YOU CAN EFFECTIVELY PARTICIPATE, IS TO COLLECT COMMENTS ON THE DRAFT SUPPLEMENT.

HERE FROM THE FERC TO ASSIST ME IN THIS ENDEAVOR I HAVE MR. ROBERT ARVEDLUND OF THE COMMISSION'S TECHNICAL & POLICY STAFF. SEATED TO HIS RIGHT IS MS. MARY GRIGGS FROM THE CALIFORNIA STATE LANDS COMMISSION.

TONIGHT YOUR COMMENTS WILL BE TRANSCRIBED BY A COURT REPORTER. THE PURPOSE FOR TRANSCRIBING THIS MEETING IS THAT YOUR COMMENTS ARE EXTREMELY IMPORTANT TO US, AND

BY TRANSCRIBING THEM, WE ARE SURE OF AN ACCURATE RECORD ON WHICH TO REVISE AND REFINE A DRAFT SUPPLEMENT. TRANSCRIPTS WILL BE AVAILABLE. IF YOU ARE INTERESTED IN ACQUIRING THEM, I WOULD ASK YOU TO SEE THE REPORTER AFTER THE MEETING. IF YOU PREFER TO PROVIDE ME TONIGHT WITH WRITTEN COMMENTS, YOU WILL FIND A PAGE FOR THIS PURPOSE ATTACHED TO YOUR AGENDA. I WOULD ASK YOU TO SIMPLY TEAR IT OFF, FILL IT IN AND PROVIDE IT TO US TONIGHT OR TO MAIL IT TO THE FERC LEADER. AS YOU WILL NOTE, ON THE BOTTOM OF THE AGENDA AND COMMENT PAGE, IT IS EXTREMELY IMPORTANT THAT THE FERC RECEIVE ALL COMMENTS -- BE RECEIVED BY THE FERC NO LATER THAN DECEMBER 12, 1988. ANY COMMENTS WHICH ARE RECEIVED AFTER THAT DATE WILL NOT BE ADDRESSED IN THE FINAL SUPPLEMENT. THE REASON FOR THIS IS ON AUGUST 2ND THE FERC ISSUED AN ORDER WHICH MANDATED THAT THE FINAL SUPPLEMENT BE PEPARED AND ISSUED BY OCTOBER 1ST OF THIS YEAR. IN ORDER TO MEET THAT SCHEDULE, IT IS IMPERATIVE THAT WE CUT THE COMMENT PERIOD OFF, AS WE SAID, ON SEPTEMBER 12TH.

I HAVE ALSO STATIONED A SIGN-IN SHEET BACK BY THE DOOR TO DOCUMENT ATTENDANCE AND TO ASSIST ME IN KEEPING OUR MAILING LIST UP TO DATE. PARTIES ON OUR MAILING LIST RECEIVE ANY ENVIRONMENTALLY-RELATED MATERIAL THAT BECOMES PUBLICALLY AVAILABLE. PLEASE AVAIL YOURSELVES OF THE SIGN-IN SHEET AND REMEMBER THAT LEGIBILITY IS IMPORTANT, BOTH TO ME AND THE POSTMAN.

IF THERE IS ANYONE WHO HAS ENTERED THE ROOM SINCE I STARTED AND THEY INTEND TO SPEAK TONIGHT, I WOULD AGAIN ASK THAT THEY SIGN THE SPEAKERS LIST BACK BY THE DOOR.

HAVING SAID THAT, I AM READY TO MOVE INTO THE NEXT PORTION OF THE PROGRAM WHICH WILL BE THE PROCEEDINGS OF PUBLIC COMMENT. MR. DAVID HALES, CITY ADMINISTRATOR OF CENTERVILLE, IS THE FIRST COMMENTOR TONIGHT. I WOULD ASK YOU, MR. HALES, IF YOU ARE WITH US TO APPROACH THE MICROPHONE AND, FOR THE RECORD, IDENTIFY YOURSELF AND YOUR AFFILIATION.

DAVID HALES: I AM DAVID HALES, THE CITY ADMINISTRATOR FOR THE CITY OF CENTERVILLE, LOCATED IN DAVIS COUNTY. I WOULD LIKE TO ASK THAT IN LIEU OF MYSELF MAKING COMMENTS ASSOCIATED WITH THE OFFICIAL POSITION OF THE CENTERVILLE CITY COUNCIL, THAT OUR MAYOR, DEAN C. ARGYLE, HAS BEEN ABLE TO ATTEND THIS PUBLIC HEARING WITH ME. I WOULD LIKE TO TURN THE TIME OVER TO HIM AND HE WILL PROVIDE THE COMMENTS FROM OUR CITY, SO MAYOR ARGYLE.

MAYOR DEAN ARGYLE: WE APPRECIATE THIS OPPORTUNITY. PM2-1 I WOULD LIKE TO SHARE WITH THE COMMITTEE CONCERNS THAT WE HAVE AS A CITY. THIS LETTER IS INTENDED TO INFORM YOU THAT ON AUGUST 16TH, 1988, CENTERVILLE CITY COUNCIL TOOK UNANIMOUS ACTION TO OBJECT TO AND OPPOSE THE ROUTING OF THE PROPOSED WYCAL KERN RIVER NATURAL GAS PIPELINE THROUGH

PM2-1 Objection noted for the record.

PM2-1
(cont.)

OUR COMMUNITY AS SHOWN IN THE DRAFT SUPPLEMENT TO THE FINAL ENVIRONMENTAL IMPACT REPORT/STATEMENT, DATED JULY 1988.

SPECIFICALLY, WE OBJECT TO AND OPPOSE THE ROUTE VARIATION IDENTIFIED IN THE DRAFT SUPPLEMENT AS THE PAGES LANE ALTERNATIVE AND THE BOUNTIFUL PEAK ALTERNATIVE. THE PAGES LANE ALTERNATIVE WOULD HAVE A DEVASTATING IMPACT ON OUR COMMUNITY. PAGES LANE IS A MAJOR ROADWAY IN OUR CITY LINED WITH HOMES, A SCHOOL AND A SUBSTANTIAL COMMERCIAL AREA. LOCATED WITHIN A BLOCK OF PAGES LANE ARE TWO CHURCHES. DISRUPTION TO CONSTRUCTION -- DUE TO CONSTRUCTION AND/OR MAINTENANCE OF THE PIPELINE WHILE ADMITTEDLY TEMPORARY IN NATURE WOULD NONETHELESS HAVE A SUBSTANTIAL EFFECT ON OUR COMMUNITY. THE J.A. ELEMENTARY SCHOOL LOCATED ON PAGES LANE COULD SUFFER CLASSROOM DISRUPTION IF CONSTRUCTION TOOK PLACE DURING THE SCHOOL YEAR. CHILDREN TRAVELING TO AND FROM SCHOOL WOULD ALSO BE AFFECTED DURING THE CONSTRUCTION PERIOD AND DURING ANY SUBSEQUENT MAINTENANCE WORK ON THE PIPELINE. THE EFFECT ON THE NUMEROUS BUSINESSES ADJACENT TO PAGES LANE WOULD CERTAINLY BE SEVERE. BUSINESSES WOULD SUFFER AS SHOPPERS AVOIDED THE AREA DURING CONSTRUCTION. SALES TAX REVENUE TO THE CITY WOULD DECREASE AND THE LIABILITY OF BUSINESS MIGHT EVEN BE THREATENED OR DISTURBED. PAGES LANE IS ALREADY CROWDED WITH UNDERGROUND UTILITY LINES. ALREADY IN PLACE ARE A CENTER LINE, TWO SEPARATE

PM2-1 (cont.)

IRRIGATION WATER LINES, A CENTERVILLE CITY WATER LINE, A BOUNTIFUL CITY WATER LINE, A 36-INCH STORM DRAIN AND NATURAL GAS, ELECTRICAL AND TELEPHONE SERVICE LINES. THE

PM2-2

MAP IN THE DRAFT SUPPLEMENTS SHOWING THE PAGES LANE ALTERNATIVE IS OUT OF DATE, WHICH, IN OUR MINDS, CALLS INTO QUESTION THE RESPONSIBILITY OF THE ENTIRE ENVIRONMENTAL REVIEW. THE MAP DOES NOT SHOW THE RESIDENTIAL SUBDIVISION APPROVED BY OUR CITY LAST YEAR AT THE TOP OF PAGES LANE. IF THE PIPELINE WERE TO FOLLOW THE ALIGNMENT, AS SHOWN ON THE DRAFT SUPPLEMENT MAP, IT WOULD PASS RIGHT THROUGH SEVERAL PLANNED RESIDENTIAL LOTS. BY THE TIME THE PIPELINE IS BUILT, HOMES ARE ALMOST CERTAIN TO BE IN EXISTENCE ON THOSE LOTS. PAGES LANE ALTERNATIVE ALSO SHOWS A VARIATION WHICH WOULD ROUTE THE PIPELINE DOWN QUARTERS LANE IN OUR CITY, SEVERAL BLOCKS TO THE NORTH OR TO THE CENTER OF THE POPULUS OF THE CITY. THIS IS STILL IN THE MIDDLE OF THE RESIDENTIAL COMMUNITY AND MANY OF THE SAME OBJECTIONS POINTED OUT ABOVE WOULD APPLY TO QUARTERS LANE. ADDITIONALLY, A 30-INCH HIGH PRESSURE NATURAL GAS LINE IS ALREADY IN PLACE IN QUARTERS LANE. PLACING A SECOND PIPELINE IN THE SAME STREET WOULD, IN OUR OPINION, JUST INCREASE THE RISK AND HAZARDS FOR OUR RESIDENTS IN THIS AREA.

WE ALSO OBJECT TO THE BOUNTIFUL PEAK ALTERNATIVE SHOWN IN THE DRAFT SUPPLEMENT, AS THIS WOULD AFFECT THE NORTH PORTION OF OUR CITY. AGAIN, WE BELIEVE THE COMPLETE-

PM2-1 (cont.) Thank you for your comments concerning the Pages Lane and Porters Lane Alternatives to the Wasatch Variation. Your concerns will be taken into consideration in making a final decision concerning the WyCal routing in Utah.

PM2-2 Thank you for your comments. Your comments concerning the usage of out of date maps has been addressed by Mr. Arvedlund further back in this transcript. In summary, the most current 7.5' scale U.S. Geological Service maps were used to study the route through Centerville. In addition to the use of these maps all portions of the route have been examined by helicopter, and/or fixed wing aircraft and automobile. All portions of the Wasatch Alternatives have been examined. As in many developed areas, or areas on the fringes of development, expansion and change occur rapidly and the cartographic representation by the USGS cannot keep pace. Staff is dependant upon field trips and data requests from affected communities to provide us with more up to date information.

PM2-2 (cont.)

NESS AND RELIABILITY OF THE ENTIRE EIS IS CALLED INTO QUESTION BECAUSE OF THE USE OF OUT-OF-DATE MAPS AND THE FAILURE TO IDENTIFY CENTERVILLE AS A COMMUNITY, THAT WOULD BE IMPACTED BY THIS ALTERNATIVE. THE NORTH PORTION OF CENTERVILLE CITY IS PLANNED FOR FUTURE RESIDENTIAL DEVELOPMENT IN THE CITY'S MASTER PLAN, IN FACT, IT'S THE FASTEST GROWING AREA WITHIN OUR CITY. THE DEVELOPMENT OF THIS AREA IS, IN FACT, EMINENT AS AN ANALYSIS OF OUR RECENT GROWTH PATTERNS WOULD SHOW. THE PIPELINE ROUTE AS SHOWN, WOULD ACTUALLY REVERSE THE CONSTRUCTION FOR THE CHURCH IN THE NEAR FUTURE.

PM2-3

THE PAGES LANE AND THE BOUNTIFUL PEAK ALTERNATIVES ALSO CONCERN US BECAUSE OF THE POTENTIAL IMPACT ON OUR WATERSHED AREA. MOST OF THE WATER USED IN CENTERVILLE CITY COMES FROM THE CANYON STREAMS AND WELLS WHICH ARE BOTH SUPPLIED BY SNOW AND RAINFALL IN THE MOUNTAINS EAST OF THE CITY. WE ARE CONCERNED THAT PIPELINE ESCAVATION COULD IMPACT THE WATERSHED AREA AND THE POTENTIAL FOR WATER CONTAMINATION COULD OCCUR FROM A CONTINUOUS OPERATION OF SUCH A PIPELINE.

IN SUMMARY, WE FEEL THERE ARE BETTER ALTERNATIVES TO THE WYCAL, KERN RIVER PIPELINE THAT WOULD HAVE LESS IMPACT ON CENTERVILLE'S NATURAL AND SOCIAL ENVIRONMENT. WE THEREFORE URGE YOU TO REJECT THE PAGES LANE AND BOUNTIFUL PEAK ALTERNATIVES FOR THE ROUTING OF THIS PROPOSAL.

PM2-3 Concerns with watershed values and the potential for water contamination have been adequately addressed. See FEIR/S, III/Mitigation Measures 35, 38, 44, 45, 46, 47, 48, 49, 50, and 53.

LAURENCE SAUTER: THANK YOU, MR. ARGYLE. MR. DAVID BROWN. PLEASE IDENTIFY YOURSELF AND YOUR AFFILIATION FOR THE RECORD.

DAVID BROWN: MY NAME IS DAVID BROWN. I AM A RESIDENT OF BOUNTIFUL. I LIVE AT 1195 SOUTH WESTWOOD ROAD. I AM A CONCERNED CITIZEN. I AM ALSO A MEMBER OF THE BOUNTIFUL HILLS RESIDENTS AND CONCERNED CITIZENS GROUP AND I WILL BE SPEAKING AFTER THIS AS A REPRESENTATIVE OF THE UTAH CHAPTER OF THE SIERRA CLUB ON ANOTHER POINT.

AS A CONCERNED CITIZEN, I HAVE SEVERAL POINTS THAT I THINK NEED TO BE DISCUSSED. MY FIRST POINT ON

PM2-4 PAGE 1 -- EXCUSE ME, I STAND CORRECTED. I WOULD LIKE TO CORRECT THAT. ON PAGE 3-19, SECTION 3.2.1 READS, AND I QUOTE, "BOUNTIFUL HILLS CONCERNED GROUP." THAT SHOULD BE CORRECTED AND SHOULD READ, "BOUNTIFUL HILLS RESIDENTS," THAT'S SPELLED R-E-S-I-D-E-N-T-S, AND GOING ON, BEGINNING "AND CONCERNED CITIZENS." I WILL STATE IT IN FULL AGAIN. "BOUNTIFUL HILLS RESIDENTS AND CONCERNED CITIZENS." IT CAN BE ABBREVIATED AS BHRCC. IT'S BEEN MISREPRESENTED IN THE DRAFT WITHOUT THAT BEING CORRECTED AND REPRESENTED APPROPRIATELY IN THE FUNCTION.

POINT 2, IN THE INTRODUCTION, ON PAGE 1-4 AND 1-5, THE DRAFT SUPPLEMENT DISCUSSES FIRMNESS OF SERVICE.

PM2-5 THE DRAFT SUPPLEMENT MENTIONS KERN RIVER'S INABILITY TO DEMONSTRATE FIRM SERVICE TO THE EOR OPERATORS IN KERN

PM2-4 Comment accepted. See Section 3.2.1 of Volume VI.

PM2-5 The ability or inability of WyCal to provide firm service to the EOR operators falls outside of the scope of this supplement. However, a discussion on firmness of service occurs in the Draft Supplement, Section 1.3.2. Also see page 1-5, footnote 3, as well as page 4-79 of Volume VI.

PM2-5 (cont)

COUNTY, CALIFORNIA. THE DRAFT MAKES NO MENTION OF WYCAL'S ABILITY OR INABILITY TO PROVIDE FIRM SERVICE TO THE EOR OPERATORS. ADDITIONALLY, THE DRAFT SUPPLEMENT DOES NOT MENTION, DISCUSS, OR EXPLORE THE POSSIBILITIES OF FIRM SERVICE SHOULD FERC CERTIFY TWO OR MORE APPLICANTS.

IT IS FELT THAT IT IS INCUMBENT ON FERC THAT THESE TWO POINTS BE INCLUDED AND EXAMINED IN DETAIL IN THE FINAL SUPPLEMENT.

POINT 3, ON PAGE 1-9, SECTION 1.3.1, TITLED BACKGROUND, THE DRAFT SUPPLEMENT MENTIONS SECTION 7 OF THE NATURAL GAS ACT AND THE FERC'S ROLE IN GRANTING A "CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY," AND WHAT CERTIFICATION MEANS.

PM2-6

UNFORTUNATELY, THE DRAFT SUPPLEMENT NOR THE FEIR/S DOES NOT DISCUSS ONE OF THE CONSEQUENCES OR POWERS WHICH THE SO-CALLED CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY EMPOWERS THE CERTIFIED PROJECT SPONSOR OR SPONSORS. I'M SPEAKING OF THE POWER OF EMINENT DOMAIN AND CONDEMNATION SECTION BY THE LAWS AND REGULATIONS OF THE U.S. GOVERNMENT TO THE CERTIFIED PROJECT SPONSOR OR SPONSORS.

THE LONG AND THE SHORT OF THIS POWER IS THAT THE CERTIFIED PROJECT SPONSOR OR SPONSORS WILL POSSESS THE RIGHT TO ACQUIRE THE LANDS AND PROPERTY, BOTH PUBLIC AND PRIVATE, NECESSARY TO CONSTRUCT AND OPERATE THEIR PROJECT OR PROJECTS.

PM2-6 Comment accepted. See Section 4.2.9 of Volume VI.

PM2-6 (cont.) IT IS VERY IMPORTANT THAT THE POWERS OF EMINENT DOMAIN AND CONDEMNATION EMPOWER BY THE SO-CALLED CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY BE EXPLAINED AND DISCUSSED AT LENGTH IN THE FINAL SUPPLEMENT.

PM2-7 POINT 4. ON PAGE 1-8, SECTION 1.2, TITLED "SCOPE OF THE WYCAL SUPPLEMENT," THE DRAFT SUPPLEMENT DISCUSSES THE OPPOSITION TO THE WASATCH VARIATION BY LOCAL GOVERNMENT OFFICIALS, RESIDENTS, CITIZENS GROUP AND THE SIERRA CLUB. THAT SHOULD READ, THE UTAH CHAPTER OF THE SIERRA CLUB. THE DRAFT SUPPLEMENT GOES ON TO SAY, "WITH RESPECT TO CONFLICTS WITH SPECIFIC LANDOWNERS ALONG THE WASATCH VARIATION, THE STAFF FEELS THAT ANY SUCH LANDOWNER CONFLICTS CAN BE RESOLVED/MITIGATED THROUGH MINOR ROUTING CHANGES IN THE ONE-MILE STUDY AREA, DESIGN MITIGATION, AND/OR A CONSTRUCTION TECHNIQUE, MITIGATION."

ADDITIONALLY, THE DRAFT SUPPLEMENT STATES, AND I QUOTE, "THE STAFF BELIEVES THAT FACE-TO-FACE NEGOTIATION AND GOOD FAITH CONSULTATION BETWEEN LANDOWNER AND PROJECT SPONSOR IS THE PROPER FORUM TO RESOLVE ANY SUCH CONFLICTS AND NOT THE FEIR/S PROCESS."

PM2-8 THE POINT NEEDS TO BE DISCUSSED AND EXAMINED AT LENGTH ON HOW CAN ANY LANDOWNER AFFECT OR ATTEMPT ANY GOOD FAITH FACE-TO-FACE NEGOTIATIONS WITH A PROJECT SPONSOR OR SPONSORS KNOWING THAT THE CERTIFIED PROJECT SPONSOR OR SPONSORS ULTIMATELY IS EMPOWERED WITH EMINENT DOMAIN AND

PM2-7 Comment accepted. See Section 1.2 of Volume VI.

PM2-8 See revised Section 4.2.9 of Volume VI for a discussion of eminent domain. Staff disagrees that there is a Catch-22. If good faith consultation and negotiation occurs, condemnation proceedings would generally be unnecessary.

PM2-8 (cont.)

CONDEMNATION POWERS. THOSE LANDOWNERS WILL BE FACING THE PROSPECT OF NEGOTIATIONS WITH THE IRON FIST IN THE VELVET GLOVE SHOULD THE CERTIFIED PROJECT SPONSOR OR SPONSORS INVOKE THEIR POWERS OF EMINENT DOMAIN AND CONDEMNATION.

THE FERC STAFF FEELS THAT THE LANDOWNER SHOULD NOT RESOLVE OR ATTEMPT TO RESOLVE CONFLICTS WITHIN THE FEIR/S PROCESS. GIVEN THE UNFAIR ADVANTAGE OF EMINENT DOMAIN AND CONDEMNATION THE LANDOWNER HAS NO ALTERNATIVE BUT TO USE THE FEIR/S PROCESS TO SEEK AN EQUITABLE AND IMPARTIAL FORUM TO ADDRESS THEIR PROBLEMS.

IT IS IMPORTANT THAT THIS CATCH-22 OF CERTRIFICATION BE DISCUSSED AND REMEDIED IN THE FINAL SUPPLEMENT.

PM2-9

POINT 5. CURRENTLY MUCH OF THE WEST IS EXPERIENCING A DIFFICULT AND A CHRONIC DROUGHT. THE LANDS AND WILDLIFE ASSOICATED AND INVOLVED WITH THE WASATCH VARIATION PROPOSAL ARE NOT ISOLATED FROM OR EXCLUDED FROM THIS DROUGHT'S RAVAGES. NEITHER FEIR/S OR THE DRAFT SUPPLEMENT EXAMINE THE RAMIFICATIONS OF THE WASATCH VARIATION PROPOSAL IN THE LIGHT OF THE DROUGHT.

THE FINAL SUPPLEMENT SHOULD INCLUDE A COMPLETE EXAMINATION OF THE DROUGHT RESPECTIVE OF THE FOLLOWING ITEMS:

PM2-10

1. WITHDRAWAL OF ALL WATER FROM ALL STREAMS, SPRINGS, FLOWS AND IMPOUNDING LAKES FOR CONSTRUCTION OPERATION, MAINTENANCE AND ESPECIALLY HYDROSTATIC TESTING.

PM2-9 The question of drought conditions have not been addressed in the Supplement. Weather conditions are constantly changing and analysis of specific weather conditions in this or any EIS would be next to impossible. The mitigation measures listed in the FEIR/S, III should adequately mitigate the effects of the items discussed below regardless of wet or dry cycle conditions.

PM2-10 See FEIR/S, III/Mitigation Measures 39, 40, 41, 42, and 43.

PM2-11 2. IMPACT TO WILDLIFE, PLANT LIFE, ACQUATIC BIOLOGY, SURFACE WATER, GROUND WATER AND DEVELOP WATERSHEDS, RESULTING FROM CONSTRUCTION, OPERATION, MAINTENANCE AND ESPECIALLY HYDROSTATIC TESTING.

PM2-11 See mitigation measures in FEIR/S, III/Section 3.1.4, 3.1.5, 3.1.6, and 3.1.7.

PM2-12 3. IN THE EVENT THAT THE CURRENT ROUTE CONTINUES INTO THE CONSTRUCTION PHASE OF THE WASATCH VARIATION, THE FEIR/S -- I STAND CORRECTED ON THAT. THE SUPPLEMENT SHOULD EXAMINE THE PROBLEMS OF CREWS, MACHINERY, EXPLOSIVES AND FLAMMABLES IN DROUGHT DRY WOODLANDS, GRASSLANDS OF THE WASATCH MOUNTAINS. ATTENTION SHOULD BE MADE TO THE POTENTIAL PROBLEMS OF FIRE IN THE SEMIPRIMITIVE AND NONROADED MOUNTAINOUS AREAS SUCH AS THE SESSESIONS MOUNTAINS.

THE FINAL SUPPLEMENT SHOULD EXAMINE PREVENTION AND CONTROL MITIGATION MEASURES FOR FIRES CAUSED BY CREWS CONSTRUCTING THE WASATCH VARIATION.

PM2-12 See FEIR/S, III/Mitigation Measure 105. In addition, construction crews are versed in fire prevention.

PM2-13 4. WITH REGARD TO HYDROSTATIC TESTING, IT IS FELT THAT IN EXAMINATION OF WITHDRAWALS FROM DROUGHT-REDUCED FLOWS, STREAM FLOWS AND LAKE LEVELS SHOULD BE CONDUCTED AND DISCUSSED.

GOING BACK TO MY SIXTH POINT REGARDING HYDROSTATIC TESTING. THERE NEEDS TO BE MORE EXAMINATION AND DISCUSSION IN THE SUPPLEMENT OF WHERE THE WATER WILL BE DRAWN FOR HYDROSTATIC TESTING AND ALSO NEEDS TO BE DISCUSSED AND EXAMINED AT LENGTH OF WHERE THE WATER, WITH THE CONTAMINATION, INVOLVED HAZARDOUS OR NOT, WHERE THEY WILL BE TAKEN

PM2-13 See FEIR/S, III/Mitigation Measures 39-42. Also, see Section 2.2.2.1 of Volume VI.

AND MANAGED AND DEALT WITH.

THIS IS THE CONCLUSION OF MY REMARKS AS A SPEAKER IN BOUNTIFUL, UTAH. THANK YOU.

LAURENCE SAUTER: THANK YOU, MR. BROWN. SINCE YOU HAVE SIGNED AT THE BEGINNING, YOU WILL SPEAK FOR THE UTAH CHAPTER OF THE SIERRA CLUB, WHY DON'T YOU JUST GO AHEAD.

DAVID BROWN: MY NAME IS DAVID BROWN. I AM REPRESENTING THE UTAH CHAPTER OF THE SIERRA CLUB. I AM IN REFERENCE ON PAGE 1-16 OF SECTION 1.3.5, ON PARAGRAPH -- ON THE BOTTOM OF 1-16 DISCUSSED THE FOREST SERVICE PROPOSALS, LET ME QUOTE IT, AND I QUOTE: "DURING THE PREPARATION OF THE FEIR/S, THE FOREST SERVICE DETERMINED THAT THE KERN RIVER AND NOW WYCAL PROPOSAL NOT FOLLOW UTILITY CORRIDORS IDENTIFIED IN THE VARIOUS FOREST LAND AND RESOURCE MANAGEMENT LANDS. THEREFORE, THE FOREST PLANS WOULD NEED TO BE AMENDED IN ACCORDANCE WITH THE NSMA 36, CFR 219.10(S) BEFORE A BLM LAND MANAGEMENT GRANT COULD BE ISSUED. A DISCUSSION ON PLAN AMENDMENT IS FOUND IN APPENDIX 'S' OF VOLUME 2 OF THE FEIR/S. THE FOREST SERVICE HAS STATED THAT APPROVAL OF THESE AMENDMENTS WOULD ONLY BE CONSIDERED WHEN ALL THE FOLLOWING ITEMS HAD A POSITIVE FINDING IN THE NEPA, NATIONAL ENVIRONMENTAL PROTECTION ACT, PROPOSAL."

PM2-14 IN THE SUPPLEMENT, THE UTAH CHAPTER DEFINES UTAH

PM2-14 Thank you for your comments. Opposition noted for the record.

PM2-14 (cont.)

CHAPTER'S OPERATION, IT DOES NOT MENTION OUR OPPOSITION AND OUR INVOLVEMENT IN THIS PROCESS. WE FEEL THAT THE UTAH CHAPTER'S OPPOSITION SHOULD BE DOCUMENTED AND DISCUSSED AT LENGTH. FOR THE RECORD, THE UTAH CHAPTER OF THE SIERRA CLUB WILL OPPOSE THE PLANNING OF THE FOREST SERVICE LAND TO ACCOMMODATE RIGHT-OF-WAY WHEN EXISTING RIGHT-OF-WAYS, IF YOU WILL -- EXCUSE ME, TO ACCOMMODATE RIGHT-OF-WAYS AND UTILITY CORRIDORS, WHEN EXISTING UTILITY CORRIDORS EXIST, AND OUR OPPOSITION WILL BE ACTED IN THAT REGARD.

THIS CONCLUDES MY REMARKS FOR THE UTAH CHAPTER OF THE SIERRA CLUB. THANK YOU.

LAURENCE SAUTER: THANK YOU, MR. BROWN. WE APPRECIATE IT. MR. YEITER. EXCUSE ME, I MEANT MRS. YEITER.

ATHALIE YEITER: MY NAME IS ATHALIE YEITER AND I'M HERE TO REPRESENT THE BOUNTIFUL HILLS RESIDENTS AND CONCERNED CITIZENS ASSOCIATION. RENEE COON IS THE CHAIRMAN, AND I AM ALSO REPRESENTING THE CONCERNED CITIZENS OF THE NORTH SALT LAKE AREA.

PM2-15

FIRST OF ALL, CONCERNS AND COMMENTS BROUGHT UP AT THE LAST FERC STAFF MEETING, AND AT THE MEETING AFTERWARD, HAS STILL NOT BEEN ADDRESSED. DISCUSSIONS THAT FERC STAFF AND THE PIPELINE COMPANIES HAD AT THAT TIME WITH BOUNTIFUL CITY, FORMER STATE GEOLOGIST BRUCE KALISER AND DAVIS COUNTY GEOLOGIST MIKE LOW HAVE NOT BEEN PUT INTO THE SUPPLEMENT. THERE IS VERY BRIEF MENTION THAT BOUNTIFUL

PM2-15 Discussions between staff and all individuals concerned with the Wasatch Variation and the alternatives to it have been taken into consideration when formulating the conclusions in this document.

PM2-15 (cont.)

HAS SOME CONCERN -- NO MENTION THAT THE CITY'S POSITION IS THEY ABSOLUTELY DO NOT WANT IT TO GO THROUGH THE CITY WHERE IT IS PROPOSED, OR AT ALL IF SOMETHING ELSE ISN'T WORKED OUT. THERE IS NO MENTION OF THE FACT THAT THE GEOLOGIST TOLD THEM ALL THEY HAVE GREAT CONCERNS WITH THE ROUTE AS PROPOSED, AND STRONGLY SUGGESTED THEY DON'T GO TO THAT ROUTE. THESE TWO GEOLOGISTS KNOW THE AREA AND HAVE STUDIED IT FAR MORE THAN FERC STAFF OR ANY OF THE PIPELINE COMPANIES' EXPERTS.

MR. JEFF KEATON, WHO HAS BEEN REFERENCED TO BY ONE OF THE COMPANY'S, PERSONALLY TOLD ME HE HAS NOT STUDIED SOUTH OF WARD CANYON. HIS STUDIES HAVE BEEN LIMITED TO NORTH OF THERE. THUS, HE HAS NOT EVEN STUDIED THE AREA WHERE THE PROBLEMS WITH THE PIPELINE ROUTE EXIST.

PM2-16

THE WORDING IN THE SUPPLEMENT HAS BEEN MANIPULATED TO MAKE ALTERNATIVES TO THE PROPOSED ROUTE LOOK BAD. THEY HAVE NOT SERIOUSLY BEEN CONSIDERED. IN PERSONAL MEETINGS WITH THE FERC STAFF IN APRIL, '88, IT WAS OBVIOUS THEIR MINDS WERE ALREADY MADE UP AGAINST ANY ALTERNATES TO THE PROPOSED WASATCH VARIATION. I BELIEVE THE ONLY REASON THE ALTERNATES WERE SOMEWHAT REPRESENTED IS DUE TO PRESSURE BY CITIZENS AND GOVERNMENT OFFICIALS.

PM2-17

THE SUGGESTION IN THE SUPPLEMENT THAT THE PROBLEM BE WORKED OUT LATER, BEGINNING "IN GOOD FAITH," WITH THE PIPELINE COMPANY IS ABSURD.

PM2-16 The wording has not been manipulated. The alternatives to the Wasatch Variation are simply not supportable. The staff cannot justify recommending one.

PM2-17 Staff disagrees.

FIRST, THE PIPELINE COMPANIES HAVE NOT SHOWN ANY "GOOD FAITH," BUT HAVE BEEN DISHONEST AND SECRETIVE.

SECOND, THE TIME TO WORK THINGS OUT IS BEFORE CERTIFICATION BY SIMPLY ELIMINATING THE PROPOSED WASATCH VARIATION.

I FAIL TO UNDERSTAND HOW STAFF CAN ELIMINATE ROUTES BECAUSE IT WILL COST TOO MUCH TO THE COMPANY AND YET NOT ELIMINATE THE ROUTE THAT IS TOO COSTLY TO THIS COMMUNITY IN TERMS OF SAFETY HAZARD, DEGRADATION OF WATER SUPPLY, DESTROYING THE BEAUTY OF OUR CANYONS.

PM2-18 IT IS TIME SOMEONE ON THE FERC STAFF WAS HONEST AND STOOD UP FOR THE FACT THAT THE PROPOSED WASATCH VARIATION IS JUST NO GOOD, AND THE PEOPLE WHO LIVE HERE DO NOT WANT IT. IF THEY WERE HONEST ABOUT IT, THIS VARIATION WOULD BE ELIMINATED.

IN CLOSING, I SUBMIT FOR THE RECORD A LETTER FROM CONGRESSMAN JIM HANSEN, IN WHICH HE STATES, "I BELIEVE THAT THE ISSUES YOU HAVE RAISED ARE LEGITIMATE AND MUST BE SATISFACTORILY ADDRESSED BEFORE THE PROJECT IS ALLOWED TO PM2-19 PROCEED...UNTIL THOSE PROGRAMS ARE WORKED OUT I WILL OPPOSE DEVELOPMENT."

MR. HANSEN HAS TOLD ME PERSONALLY HE FEELS THE PIPELINE SHOULD BE ROUTED AWAY FROM THIS METROPOLITAN AREA, AND WE, THE PEOPLE WHO LIVE IN THIS AREA, AGREE. DON'T PUT IT HERE.

PM2-18 Thank you for your comment. Staff also notes that the alternatives to the Wasatch Variation are also opposed by those communities directly affected by a specific alternative.

PM2-19 Thank you for your comments. Letter reproduced on next page.

PM-24

IES V. HANSEN
.T DISTRICT, UTAH

COMMITTEES:
ARMED SERVICES
INTERIOR AND
INSULAR AFFAIRS
STANDARDS OF OFFICIAL
CONDUCT

WASHINGTON OFFICE:
ROOM 1113
LONGWORTH HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-0453

Congreſs of the United States
House of Representatives
Washington, DC 20515

DISTRICT OFFICES
1017 FEDERAL BUILDING
324 25TH STREET
OGDEN, UT 84401
(801) 625-5677
(TOLL FREE 1-800-662-2523)

435 EAST TABERNACLE
SUITE 105
ST GEORGE, UT 84770
(801) 628-1071

July 11, 1988

Mr. and Mrs. Stan D. Coon
1319 East Canyon Creek Drive
Bountiful, Utah 84010

Dear Mr. and Mrs. Coon:

Thank you for making me aware of your concerns regarding the proposed Kern River pipeline. I can certainly appreciate those concerns and I want you to know that I believe that the issues you have raised are legitimate and must be satisfactorily addressed before the project is allowed to proceed.

With that said, I want you to know that I believe that the Kern River Project would be good for Utah and should be built if the problems the local communities have can be resolved. However, until those problems are worked out I will oppose development. I have made the Kern River Gas Transmission Company aware that I intend to represent the interests of Davis County and the local communities.

I am still hopeful that agreements can be reached that will allow Kern River to proceed while protecting the environment and public. If you you have further comments or questions please let me know.

Sincerely yours,

James V. Hansen

James V. Hansen
Member of Congress

JVH:Ww

LAURENCE SAUTER: THANK YOU, MRS. YEITER. I STAND CORRECTED. I WILL TRY NOT TO EVER CALL YOU MISTER AGAIN. MR. BARRY BURTON.

BARRY BURTON: MY NAME IS BARRY BURTON. I REPRESENT THE DAVIS COUNTY PLANNING COMMISSION. I HAVE A WRITTEN COMMENT I WOULD LIKE TO SUBMIT AT THIS TIME. I WILL GIVE YOU THAT COMMENT.

THE DAVIS COUNTY PLANNING COMMISSION HAS REVIEWED THE WYCAL SUPPLEMENT TO THE FINAL ENVIRONMENTAL IMPACT REPORT/STATEMENT FOR THE MOJAVE-KERN RIVER-ELDORADO NATURAL GAS PIPELINE PROJECTS AND IS PLEASED TO NOTE THAT ALTERNATIVES TO THE WASATCH VARIATION, WHICH ARE SUGGESTED BY BOUNTIFUL CITY AND SUPPORTED BY DAVIS COUNTY, ARE BEING CONSIDERED.

THE DAVIS COUNTY PLANNING COMMISSION CONTINUES TO BE CONCERNED OVER THE POTENTIAL ENVIRONMENTAL AND AESTHETIC PROBLEMS WHICH MAY BE CREATED BY CONSTRUCTION OF THE PROPOSED PIPELINE WHILE SYMPATHETIC TO THE NEED FOR SUCH A PIPELINE, DAVIS COUNTY DID NOT WISH TO SEE THE SCENIC BEAUTY OF OUR RUGGED MOUNTAINS DESTROYED, NOR THIS FRAGILE ENVIRONMENT UNNECESSARILY DISTURBED.

THE DAVIS COUNTY PLANNING COMMISSION IS ALL TOO FAMILIAR WITH THE IMPACTS THAT SLOPE INSTABILITY IN OUR MOUNTAINS CAN HAVE OUR COMMUNITIES CONSTRUCTED ON OUR ALLUVIAL FANS AT CANYON MOUTHS. MANY TIMES IN OUR SHORT HISTORY

PM2-20 DEBRIS FLOWS GENERATED IN THE MOUNTAINS HAVE DAMAGED PROPERTY AND SOMETIMES CAUSED LOSS OF LIFE IN OUR POPULATION CENTERS. THE DEBRIS FLOWS AND DEBRIS FLOODS, WHICH CAUSED GREAT DAMAGE AND HARDSHIP TO MANY CITIZENS IN 1983 AND 1984, REMAIN FRESH ON OUR MINDS.

THE DAVIS COUNTY COMMISSIONERS, IN A LETTER TO YOU DATED APRIL 20TH, 1988, POINTED OUT THAT MITIGATION MEASURES, ADDRESSED IN VOLUME 2 OF THE EIR/EIS CONCERN, ONLY THE PIPELINE IN THE AREAS IN THE IMMEDIATE VICINITY OF THE PIPELINE. THE DAVIS COUNTY PLANNING COMMISSION JOINS THE DAVIS COUNTY COMMISSIONERS IN REQUESTING THAT DOWNSTREAM PUBLIC PROTECTION MEASURES AND LIABILITY FOR DAMAGES RELATED TO CONSTRUCTION OF THE PIPELINE BE ADDRESSED. ALTHOUGH WE ARE CONCERNED WITH THE POTENTIAL HAZARDS ASSOCIATED WITH ALL OF THE PROPOSED ROUTES, WE'RE MOST CONCERNED WITH THE WASATCH VARIATION AS IT WOULD POTENTIALLY IMPACT DEVELOPMENT AT THE MOUTH OF THREE OF OUR CANYONS.

THE DAVIS COUNTY PLANNING COMMISSION IS ALSO CONCERNED WITH THE AESTHETIC IMPACTS OF THE PROPOSED PIPELINE. TO UNDERSTAND OUR CONCERNS, ONE NEED ONLY VIEW FIGURE 3.2-1 IN THE WYCAL SUPPLEMENT TO THE EIR/EIS WHICH DEPICTS THE SCAR WHICH WAS CREATED BY THE CONSTRUCTION OF A PREVIOUS PIPELINE. ALTHOUGH YEARS HAVE PASSED SINCE THE PIPELINE'S CONSTRUCTION, THE SCAR REMAINS CLEARLY VISIBLE.

PM2-20 The request for downstream public protection measures, most notably downstream debris basins, should be negotiated with the pipeline companies. Staff feels that discussions between Davis County and either WyCal or Kern River should resolve this issue. At these negotiations, design factors and costs should be addressed with some discussion of shared costs considered but the entire cost should not be borne by Kern River or WyCal.

THE DAVIS COUNTY PLANNING COMMISSION SEES NO PURPOSE IN CREATING YET ANOTHER SCAR ON OUR MOUNTAINS. THE DAVIS COUNTY PLANNING COMMISSION STRONGLY RECOMMENDS THAT THE PROPOSED PIPELINE, IF APPROVED, BE REQUIRED TO USE THE EXISTING MOUNTAIN FUEL PIPELINE CORRIDOR (THE BOUNTIFUL BOULEVARD, PAGES LANE, OR PORTER LANE ALTERNATIVES).

THE DAVIS COUNTY PLANNING COMMISSION IS STRONGLY OPPOSED TO THE WASATCH VARIATION WHICH WOULD IMPAIR THE SCENIC BEAUTY OF THREE OF OUR CANYONS.

PM2-21 IN CONCLUSION, THE DAVIS COUNTY PLANNING COMMISSION IS CONCERNED WITH THE POTENTIAL ENVIRONMENTAL AND AESTHETIC PROBLEMS ASSOCIATED WITH CONSTRUCTION OF THE PROPOSED MOJAVE-KERN RIVER-ELDORADO PIPELINE PROJECT.

THE DAVIS COUNTY PLANNING COMMISSION IS STRONGLY OPPOSED TO THE "WASATCH VARIATION," WHICH WOULD TREND ACROSS HOLBROOK, MILLCREEK, AND NORTH CANYON AND THE INTERVENING RIDGES. NOT ONLY WOULD THIS ROUTE DAMAGE THE SCENIC BEAUTY OF THREE OF OUR MOST USED CANYONS BUT WOULD PUT DEVELOPMENT AT THE MOUTH OF ALL THREE CANYONS AT RISK FROM SLOPE/FAILURE OR EROSION-INDUCED DEBRIS FLOWS.

PM2-22 THE DAVIS COUNTY PLANNING COMMISSION RESPECTFULLY REQUESTS THAT CAREFUL CONSIDERATION BE GIVEN TO THE ALTERNATIVE ROUTES PROPOSED BY BOUNTIFUL CITY. THANK YOU FOR ALLOWING US TO PRESENT OUR VIEWPOINTS AND EXPRESS OUR CONCERNS REGARDING THE PROPOSED PIPELINE.

PM2-21 Mitigative measures have been developed to reduce the potential for both slope failure and/or erosion induced debris flows (see FEIR/S, Volume III/Mitigation Measures 4, 7, 8, 9, 10, 13, 21, 22, 24, 27, 28, and 31.

PM2-22 Thank you for your comments.

LAURENCE SAUTER: THANK YOU VERY MUCH. MR. MIKE LOW.

MIKE LOW: MY NAME IS MIKE LOW. I AM A DAVIS COUNTY GEOLOGIST. I AM REPRESENTING BOTH MYSELF AND DAVIS COUNTY FLOOD CONTROL.

FIRST, I WILL PRESENT A FEW COMMENTS OF MY OWN AND THEN I WILL READ A STATEMENT FROM THE DAVIS COUNTY PUBLIC WORKS.

FOR THE PAST THREE YEARS I HAVE BEEN STUDYING ALL OF THE HAZARDS WHICH AFFECT DAVIS COUNTY. CLEARLY THE MOST DANGEROUS, FREQUENTLY-OCCURRING HAZARD IN DAVIS COUNTY IS A DEBRIS FLOW. DEBRIS FLOWS CAN BE GENERATED EITHER BY LANDSLIDES WHICH REACH DRAINAGES WITH FLOWING WATER OR THEY CAN BE GENERATED BY EROSION. I AM CONCERNED WITH THE SLOPE STABILITY ASPECT OF THE PROPOSED WASATCH VARIATION WHICH CROSSES ACROSS THE THREE DRAINAGES, HOLBROOK CANYON, MILLCREEK CANYON, AND NORTH CANYON, AND OVER THE INTERVENING RIDGES. I AM MORE CONCERNED, HOWEVER, WITH THE EROSION WHICH MAY OCCUR DURING CLOUDBURST THUNDERSTORMS FROM THE DENUDED STRIP.

AS ONE LOOKS AT THE PIPELINE WHICH COMES DOWN THE RIDGE BETWEEN NORTH CANYON AND HOLBROOK CANYON, CLEARLY THE VEGETATION HAS NOT TAKEN AFFECT TO VEGETATION AS IT WAS. I THINK THAT IT DOESN'T MAKE SENSE AT ALL TO CROSS THREE DIFFERENT DRAINAGES, PUTTING THREE DIFFERENT AREAS OF

COMMUNITIES AT RISK FROM THIS VERY SERIOUS HAZARD. DAVIS COUNTY HAS EXPERIENCED MANY DEBRIS FLOWS THROUGHOUT HISTORY. HAD THE DEBRIS FLOWS OF THE 1930'S OCCURRED TODAY, IT WOULD HAVE BEEN A DISASTER OF NATIONAL IMPORTANCE. IN 1923 A DEBRIS FLOW THAT GENERATED FROM THE EROSION IN AKRON CANYON ATTRIBUTED TO FARMINGTON CANYON THIS EROSION AS GENERATED BY A DENUDED AREA YET RESULTED IN SEVEN DEATHS. WE CAN'T FORGET THIS, WE MUST LEARN FROM PAST HISTORY. WE MUST PRESERVE OUR FOREST LAND AND OUR VEGETATION IN WHICH THANKS TO THE RECENT CYCLE, IT IS QUITE ACCURATE. I WOULD NOT LIKE TO SEE THE DAVIS COUNTY -- SEE THIS WASATCH VARIATION ROUTE USED AND I WILL NOW READ SOME COMMENTS FROM SIDNEY W. SMITH, DIRECTOR OF DAVIS COUNTY, PUBLIC WORKS.

DAVIS COUNTY FLOOD CONTROL HAS REVIEWED THE MOJAVE-KERN RIVER-ELDORADO NATURAL GAS PIPELINES PROJECTS' FINAL EIR/EIS AND THE DRAFT WYCAL SUPPLEMENT TO THE EIR/EIS.

PM2-23 MR. SMITH IS CONCERNED OVER THE POTENTIAL SLOPE STABILITY AND EROSION PROBLEMS WHICH MAY OCCUR DURING AND FOLLOWING CONSTRUCTION OF THE PROPOSED "WASATCH VARIATION" ROUTE, SHOULD THAT ROUTE BE THE ONE THAT IS SELECTED. BECAUSE OF THE HISTORY OF LANDSLIDING, DEBRIS FLOWS, AND FLOODING ASSOCIATED WITH THESE CANYONS, MR. SMITH FEELS THAT CONSTRUCTION OF THE PIPELINE USING THE WASATCH VARIATION WILL SIGNIFICANTLY INCREASE THE RISK TO COMMUNITIES

PM2-23 See previous response to similar comment by the Davis County Planning Commission (LA2-3).

BELOW MILLCREEK AND NORTH CANYON.

MR. SMITH SUGGESTS THAT OTHER ALTERNATIVE ROUTES, SUCH AS HAVE BEEN PROPOSED BY BOUNTIFUL CITY, BE CONSIDERED. THESE ROUTES ARE MORE FAVORABLE FROM A FLOOD CONTROL VIEWPOINT BECAUSE DEPOSITS OF LANDSLIDE-PRONE SOILS, AND WATER DERIVED FROM MELTING SNOW OR RAIN, ARE LESS LIKELY TO ACCUMULATE ALONG THE RIDGE LINES.

PM2-24 AS STATED IN THE APRIL 20TH, 1988 LETTER TO YOU FROM THE DAVIS COUNTY COMMISSIONERS, IF UTILIZATION OF THE WASATCH VARIATION ROUTE IS NECESSARY, CONSTRUCTION OF DEBRIS BASINS IN MILLCREEK AND NORTH CANYON, AS WELL AS REVEGETATION AND SLOPE-FAILURE MITIGATION ALONG THE PIPELINE ROUTE, SHOULD BE REQUIRED. REMOVAL OF DEBRIS GENERATED FROM CONSTRUCTION OF THE PIPELINE FROM THE EXISTING DEBRIS BASIN AT THE MOUTH OF HOLBROOK CANYON SHOULD ALSO BE REQUIRED. SHOULD THE WASATCH VARIATION BE THE ROUTE THAT IS CHOSEN, MR. SMITH REQUESTS THAT WYCAL, KERN RIVER OR ANY OTHER PIPELINE COMPANY CONTACT HIM SO THAT HE CAN DISCUSS SIZE, LOCATION, AND TYPE OF CONSTRUCTION FOR THE NECESSARY DEBRIS BASINS IN GREATER DETAIL.

DAVIS COUNTY HAS SPENT CONSIDERABLE AMOUNTS OF MONEY ON FLOOD CONTROL PROJECTS IN THE RECENT PAST IN AN ATTEMPT TO LOWER OUR CITIZENS' VULNERABILITY TO FLOOD AND DEBRIS -- LOW HAZARDS.

PM2-25 MR. SMITH FEELS THAT SELECTION OF THE WASATCH

PM2-24 See response to LA3-1.

PM2-25 Thank you for your comment.

PM2-25 (cont.)

VARIATION, WITHOUT ACCOMPANYING DOWNSTREAM MITIGATION MEASURES, WOULD BE A POOR DECISION FROM A FLOOD CONTROL VIEWPOINT. HE URGES YOU TO CONTACT HIM SO THAT HE CAN DISCUSS THIS MATTER IN GREATER DETAIL. THANK YOU.

LAURENCE SAUTER: THANK YOU, MIKE. CARLIN W. JACOBSON.

CARLIN JACOBSON: I AM CARLIN W. JACOBSON, A COUNCILMAN FOR THE CITY OF NORTH SALT LAKE. I AM ALSO REPRESENTING OTHER NORTH SALT LAKE CITIZENS WHO WOULD LIKE TO SEE THE WASATCH VARIATION TAKEN OFF OF ALL YOUR PIPELINE MAPS.

MY STATEMENTS TONIGHT WILL BE VERY BRIEF, BUT I HOPE YOU WILL HEAR WHAT I AM SAYING. IT IS NICE TO HAVE YOU HERE IN UTAH AGAIN. WE LIKE IT HERE. YOU KNOW, WE COULD HAVE CHOSEN TO WORK IN THE EAST OR WASHINGTON, D.C., BUT WE LIKE IT HERE AND WE INVITE YOU TO COME OUT AND SEE US ANY TIME. WE LIKE THE RURAL LIFESTYLE OF UTAH, SALT LAKE, NORTH SALT LAKE.

PM2-26

SO ON YOUR MAP, IN THE SUPPLEMENT, THE DRAFT SUPPLEMENT MAP, DATED LAST MONTH, JULY '88, THE MAP IN THERE IS AT LEAST 14 YEARS OUT OF DATE. MY HOME IS NOT THERE. THE MAYOR OF OUR CITY'S HOME IS NOT THERE. AND YOU HAVE ABOUT 200 SMALL DOTS ON THAT MAP REPRESENTING OUR HOMES IN NORTH SALT LAKE, THE HOMES THAT THE WYCAL PIPELINE MIGHT AFFECT. OUR CITY HAS DOUBLED IN SIZE SINCE THE MAP

PM2-26 Please see Mr. Arvedlund's comments later in the transcript concerning maps used in the Supplement and the FEIR/S.

PM2-26 (cont.)

WAS MADE AND YOU KNOW SOME OF THE DOTS SHOULD BE BIG DOTS REPRESENTING ADULTS AND SOME SHOULD BE SMALL DOTS REPRESENTING CHILDREN. IN ALL, THERE SHOULD BE 2,100 DOTS IN MY NEIGHBORHOOD ALONE, REPRESENTING FAMILIES.

NOW, THE LINE THAT IS DRAWN ON THE MAP COMES DANGEROUSLY CLOSE TO OUR NEIGHBORHOOD. IT FOLLOWS THE FENCE LINE THAT SEPARATES OUR HOMES FROM THE GIBONS & REED GRAVEL PIT.

PM2-27

NOW, DURING THE LAST 40 YEARS, GIBONS & REED HAS BEEN PRETTY ACTIVE. THEY HAVE DUG THAT ELEVATION FROM THE LEVEL OF OUR HOME DOWN TO A PIT SO THAT THE ELEVATION FROM MY HOME GOES UP ABOUT 30, 35, 40 FEET AND THEN GOES STRICTLY DOWN, STRAIGHT DOWN A 45-DEGREE ANGLE TO THE BOTTOM OF THE PIT. NOW I KNOW THE PIPELINE CAN'T BE VARIED ON THAT 45-DEGREE ANGLE BECAUSE IT'S DIRT. SO THAT LEAVES ONLY ONE PLACE. IF YOU DRAW THE LINE ON THAT MAP, IT COMES DOWN ALONG THAT FENCE LINE ANYWHERE BETWEEN THE PIPELINE -- BETWEEN THE FENCE LINE AND THE EDGE OF THE GRAVEL PIT, SOMETHING LIKE 40 FEET. THIS IS DANGEROUSLY CLOSE TO MY HOME, TO MY CHILD'S BEDROOM.

NOW, YOU MAY CLAIM THAT THERE IS RELATIVELY SMALL DANGER IN A PIPELINE, BUT THAT DOESN'T MEAN A THING TO ME BECAUSE THAT SMALL DANGER OR THAT ELEMENT OF CHANCE COULD ELIMINATE MY DAUGHTER, MY FAMILY, AND MY NEIGHBORHOOD IF ANYTHING WENT WRONG.

PM2-27 The final routing of the Wasatch Variation could be moved further south into the gravel pit (see Map 5 of the WyCal Supplement) as long as active gravel operations are not located immediately adjacent to the pipeline ROW. It may be possible during the final alignment of the route to avoid placement of the line close to homes in North Salt Lake. Several mitigation measures would be utilized to mitigate the effects of the steep unstable slopes of the gravel pit (see FEIR/S, III/Mitigation Measures 4, 5, 7, 8, and 9.

TO ME, THE LINES ON THESE MAPS REPRESENT TRAIN TRACKS ALREADY LAID, JUST WAITING FOR THE 100-CAR TRAIN. THE WASATCH VARIATION OR THE WYCAL, OR ANY OTHER PIPELINE, REPRESENTS MASSIVE AMOUNTS OF PETROLEUM PRODUCTS ABOUT TO RUMBLE THROUGH OUR NEIGHBORHOOD.

I KNOW YOU GENTLEMEN AND LADY MUST HAVE A LOT OF POWER. THE AMOUNT OF MONEY INVOLVED IN A PROJECT OF THIS SIZE GENERATES A LOT OF CLOUT. SO, TONIGHT I APPEAL TO YOUR HUMAN SIDE. RUN THE PIPELINE THROUGH UTAH, IF YOU WISH, BUT LIKEN OUR NEIGHBORHOOD TO YOUR OWN AND FORGET ABOUT THE WASATCH VARIATION. MR. ARVEDLUND, I ASK YOU TO SEE THAT THE PIPELINE RUNS MILES AWAY FROM ANY HUMAN HABITAT. OTHERWISE, YOU ARE ENDANGERING OUR LIVES AND OUR HOMES.

PM2-28 I WOULD LIKE TO PRESENT THIS STATEMENT HERE FOR THE RECORD. THANK YOU.

LAURENCE SAUTER: THANK YOU VERY MUCH, MR. JACOBSON. OKAY, MR. JAKE SIMMONS.

D. W. "JAKE" SIMMONS: I AM D.W. "JAKE" SIMMONS, MAYOR OF THE CITY OF NORTH SALT LAKE. I APPRECIATE THE OPPORTUNITY TO SPEAK AGAIN ON BEHALF OF THE CITIZENS AND COUNCIL OF OUR CITY. AND IN THE HEARING THAT WAS HELD A FEW MONTHS AGO, ESSENTIALLY THE SAME CONCERNS. I STILL WANT TO RESTATE OUR CONCERNS, AND THEY HAVE NOT CHANGED.

OUR CITY COUNCIL, ON AUGUST 16TH, ADOPTED A

PM2-28 Statement reproduced on next page.

Docket Nos.
CP87-479-000
CP85-437-000, et al.
CP85-552-000, et al.

ROBERT ARVEDLUND & STAFF - FEDERAL ENERGY REGULATORY COMMISSION

I'm Carlin W. Jacobson, a councilman for the city of North Salt Lake. I'm also representing other North Salt Lake citizens who would like to see the Wasatch Variation taken off of all your pipeline maps.

My statements tonight will be brief and I hope you will hear what I'm saying.

It's nice to have you visit us again in Utah. The last time you were here was for the Kern River Pipeline Proposal. Now you're here for the Wycal Proposal along the same route.

Many of us could live and work in the East or Washington D.C., but we chose to live in the West because we like it here. We enjoy a more rural lifestyle.

PM2-28 (cont.)

On your big map, there are about 200 small dots representing the homes that the Wycal Pipeline will affect. The current map is seriously outdated and should include many more dots. Our city has doubled in size since that map was made. Some of the dots should be large, representing adults, and some should be small, representing children. There should be about 2100 dots representing my area of North Salt Lake alone.

The line that represents the pipeline on the map, comes dangerously close to our neighborhood. It follows the fence line that separates our homes from the Gibbons & Reed gravel pit. During the last 40 years, the gravel pit has been excavated down from the level of our homes. The slope goes out from my house about 30 feet before dropping at a 45 degree angle to the bottom of the pit. You can't bury a pipeline along the edge of that slope. Therefore, the Wycal Pipeline would actually run just 18 feet from my daughter's bedroom window. You may claim that there is little chance that anything will go wrong with the pipeline. However, even a small accident would take out my daughter, my family, and the entire neighborhood.

To me, the lines on these maps represent train tracks already laid, just waiting for the 100 car train. The Wasatch Variation for the Wycal, or any other pipeline, represents massive amounts of petroleum products about to rumble through our neighborhood.

I know you gentlemen must have a lot of power. The amount of money involved on a project of this size generates a lot of clout. So, tonight I appeal to your human side. Run the pipeline through Utah if you wish, but liken our neighborhood to your own and forget about the Wasatch Variation. Mr. Arvedlund and staff, I ask you to see that the pipeline runs miles away from any human habitat. Otherwise, you are endangering our homes and our lives.

Carlin W. Jacobson
North Salt Lake City Councilman.

PM2-28 (cont.)

The most current U.S.G.S. 7.5' topographic maps have been utilized to portray the route for the WyCal Supplement maps. In addition to using these maps, all portions of the route have been examined by helicopter and/or fixed wing aircraft and automobile. Many developed areas or areas on the fringes of development have rapid expansion which cannot be adequately displayed on maps. Staff is aware of this expansion and have taken them into consideration although cartographic representation by the U.S.G.S. cannot keep pace. Also see Mr. Arvedlund's comments later in the manuscript concerning maps.

The final routing of the Wasatch Variation could be moved further south into the gravel pit (see Map 5 of the WyCal Supplement). As long as active gravel operations are not immediately adjacent to the proposed ROW. Thus, it may be possibe during the final alignment of the route to avoid placing the line close to homes in North Salt Lake. Several mitiation measures could be used to mitigate the effects of the steep unstable slopes of the gravel pit (see Mitigation Measures 4, 5, 7, 8, and 9 of the FEIR/S, III.

PM2-29 RESOLUTION OPPOSING THE WASATCH VARIATION AND I WOULD LIKE TO PRESENT A COPY OF THAT TO YOU NOW.

WE, AS THE CITY, ARE NOT OPPOSED TO THE PIPELINE ON ITS ORIGINAL ROUTE. IN FACT, WE WOULD LIKE TO SEE IT IN OUR STATE, BUT WE HAVE SOME QUESTION OF CONCERN AS TO WHY PEOPLE ARE LESS IMPORTANT THAN THE ENVIRONMENTAL IMPACT ON TREES AND FORESTS, AS WAS BROUGHT UP IN THE PREVIOUS HEARING. BUT I WOULD JUST LIKE TO READ PART OF OUR CONCERNS ON THAT INVOLVING THE RESOLUTION.

PM2-30 WHEREAS, IT IS APPARENT THAT CRITICAL FACTORS, SUCH AS THE FOLLOWING, HAVE NOT BEEN CAREFULLY CONSIDERED, SUCH AS:

1. THE POTENTIAL HAZARDS TO PLACING SUCH A PIPELINE IN A ZONE 3 GEOLOGICAL REGION;

2. THE DIRECT IMPACT SUCH A PROJECT WOULD HAVE ON RESIDENTIAL AND GROWTH AREAS WITHIN OUR CITY;

3. THE FACT THAT THE PIPELINE WOULD DIRECTLY INTERSECT EXISTING NATURAL SPRINGS;

4. THE IMPACT PROJECT WOULD HAVE ON EXISTING CROSS-DEBRIS BASINS;

5. HOW THE PIPELINE PROPOSES TO PRUDENTLY INTERSECT THE EXISTING 20-INCH MOUNTAIN FUEL PIPELINE IN OUR CITY, AND,

6. WHY THE PIPELINE DOESN'T FOLLOW ANY APPROVED UTILITY CORRIDORS.

PM-29 Resolution reproduced on next page.

PM2-30 Numerous mitigation measures have been presented in the Volume III Supplement. The specific measures appropriate to your concerns are provided below.

See III Supplement/Mitigation Measures 4, 5, 7, 8, 9, 10, 11, and 12.

See III Supplement/Mitigation Measure 53.

See III Supplement/Mitigation Measure 98.

See III Supplement/Mitigation Measure 98.

Both the WyCal and Kern River routes follow established or defacto utility corridors for over 50 percent of their proposed routes. Utilization of the Ward Canyon utility corridor has been attempted by both WyCal and Kern River on the majority of the Wasatch Variation. Use of the corridor into Bountiful following Pages Lane, Porter Lane, or Bountiful Boulevard would create numerous problems concerning safety, traffic, the crossing of existing utilities and general congestion.

PM-36

DOCKET NO.:
CP87-479-000
CP85-437-000, ET AL
CP85-552-000, ET AL

CITY OF NORTH SALT LAKE

RESOLUTION OPPOSING THE PROPOSED

MOJAVE-KERN RIVER PIPELINE PROJECTS (WYCAL SUPPLEMENT)

Adopted on August 16, 1988

IN CONSIDERATION of the proposed Mojave-Kern River Pipeline Project (Wycal Supplement), the City of North Salt Lake, Utah finds as follows:

WHEREAS, it appears from all materials that have been provided to the City of North Salt Lake that the Kern River Gas Company has proposed to build a 36-inch, 837-mile gas pipeline from a point near the town of Opal, Wyoming, through the States of Utah and Nevada, and on into Kern County, California. The purpose of the pipeline is to apparently deliver natural gas to oil producers in the State of California; and

WHEREAS, it further appears that in the most recent Draft Supplement to the Final Environmental Impact Statement, the Federal Energy Regulatory Commission has suggested that the pipeline be routed through areas near or within the boundaries of our city, North Salt Lake, Utah.; and

WHEREAS, our city contends that the most recent supplement to the Mojave-Kern River-El Dorado pipeline proposal by WyCal fails to adequately address substantial issues that will have substantial ramifications on North Salt Lake's watershed, that the course proposed will most certainly contribute to soil erosion, and that it will negatively impact the overall environment.; and

WHEREAS, it is apparent that critical factors such as the following, have not been carefully considered, ie... (a) the potential hazards to placing such a pipeline in a Zone 3 geological region, (2) the direct impact such a project would have on residential and growth areas within our city, (3) the fact that the pipeline would directly intersect existing natural springs in the city, (4) the impact the project would have on existing cross debri basins, (5) how the pipeline proposes to prudently intersect the existing 20 inch Mountain Fuel pipeline in our city, and, (6) why the pipeline doesn't follow any approved utility corridors; and

WHEREAS, it appears that the maps used in the Draft Supplement to the Final Environmental Impact Statement,

Attached to DW Simmons comments

specifically those which depict our City and identify the location of the pipeline with respect to populated areas therein, are grossly inaccurate, and in fact seem to place the pipeline's course as intersecting the very center of existing residential areas; and

WHEREAS, the City considers attention to each of these factors in the Draft Supplement to the Final Environmental Impact Statement has been incomplete and wholly inadequate, particularly when one considers the important and far reaching impact of such a decision; and

WHEREAS, the City is a municipal organization required to act on behalf of and for the benefit of its residents.

NOW, THEREFORE, IT IS HEREBY RESOLVED that North Salt Lake City Council opposes the adoption of the proposed Mojave-Kern River-El Dorado Natural Gas Pipeline Project (WyCal Supplement).

IN WITNESS WHEREOF, I have hereunto subscribed my official signature and affixed the seal of said Municipality this 16th day of August, 1988.

Simmons
Mayor

[S E A L]

Collin H Wood
Recorder

PM2-31 I PRESENTED A MAP LAST TIME AND IN IT, THE PROPOSED ROUTE WOULD GO RIGHT THROUGH A PROPOSED ELEMENTARY SCHOOL BUILDING SITE, IT WOULD GO RIGHT ON TOP OF A PROPOSED FOUR-LANE HIGHWAY TO SERVE THE AREA AND RIGHT INTO BOUNTIFUL BOULEVARD, AND AT THE BASE, RIGHT OFF OF HIGHWAY 89 IS THE PROJECTED MAJOR FAULT START. SO THESE ARE SERIOUS CONCERNS.

PM2-32 FURTHER, WHEREAS, IT APPEARS THAT THE MAP USED IN THE DRAFT SUPPLEMENT TO THE FINAL ENVIRONMENTAL IMPACT STATEMENT, SPECIFICALLY THOSE WHICH DEPICT OUR CITY AND IDENTIFY THE LOCATION OF THE PIPELINE WITH RESPECT TO POPULATED AREAS THEREIN, ARE GROSSLY INACCURATE, AND, IN FACT, SEEM TO PLACE THE PIPELINE COURSE AS INTERSECTING THE VERY CENTER OF EXISTING RESIDENTIAL AREAS.

AND AS MR. JACOBSON STRESSED, THOSE MAPS DO NOT HAVE MANY OF THE EXISTING BUILDINGS AND THEY ARE AT LEAST 12 TO 15 YEARS OLD AND WE FEEL THAT THAT'S AN INJUSTICE IN PROPER PLANNING.

ONE COMMENT INVOLVING THE RECOMMENDED LINES THAT BOUNTIFUL PRESENTED THE LAST TIME, WE HAVE NO OBJECTION TO THAT, THE ONE COMING THROUGH OUR CITY IF WE HAVE AN OPPORTUNITY TO NEGOTIATE WITH YOU AND ASSIST, AND PARTICULARLY IF IT'S SOUTH ABOUT A MILE AND THEN COMES DOWN OVER THE HILL AND IT CAN STILL BE A HALF MILE OR A MILE AWAY FROM EXISTING POPULATION, SO I THINK THERE ARE AREAS THAT COULD BE ADDRESSED. HOWEVER, WE STILL ARE, IN TOTAL, OPPOSED TO

PM2-31 As has been stated previously, the exact staked route of any of the proposed pipelines has not been completed. Minor routing variations should avoid all of the problems.

PM2-32 See previous staff responses concerning maps.

THE WASATCH VARIATION AND WE JUST ASK YOU YOUR CONSIDERATION FOR THESE MATTERS AND I WOULD JUST LIKE TO STATE THAT THESE SAME MATTERS WERE ADDRESSED IN THE LAST HEARING, AND I THINK IT WAS IN FEBRUARY, AND YET WE CAN'T FIND ANY OF THESE CONCERNS ADDRESSED IN THE WYCAL SUPPLEMENT.

SO IF THAT IS CLOSER SCRUTINY AND CONSIDERATION, WE REPRESENT THE PEOPLE OF DAVIS COUNTY. THANK YOU VERY MUCH.

LAURENCE SAUTER: THANK YOU, SIR. MR. JERRY THOMPSON.

JERRY THOMPSON: MY NAME IS JERRY THOMPSON AND IT IS A PLEASURE FOR ME TO STAND BEFORE YOU. I HAVE A PREPARED STATEMENT, BUT JUST AS MUCH AS THE STATEMENTS THAT HAVE BEEN ISSUED PREVIOUSLY CONCERN ME VERY DEEPLY, I WOULD LIKE TO REQUEST THAT BASED ON THE INFORMATION THAT YOU ALREADY HAVE THAT UNTIL YOU ADDRESS EACH ONE OF THOSE INDIVIDUALLY AND PROVIDE A SATISFACTORY ANSWER TO THOSE PEOPLE WHO HAVE REQUESTED THOSE PARTICULAR ANSWERS TO THOSE PM2-33 QUESTIONS, I WILL GO ON RECORD STATING, AS THE MAYOR OF WEST BOUNTIFUL, WE OPPOSE THIS PIPELINE GOING ON PAGES LANE AND WE WOULD LIKE TO HAVE MORE ANSWERS TO US SO THAT WE CAN ENTIRELY KNOW THE TRUTH OF WHAT IS HAPPENING. MY STATEMENT WILL BE HANDED TO YOU AFTER THE MEETING. THANK YOU VERY MUCH.

LAURENCE SAUTER: THANK YOU, SIR. MR. TOM HARDY.

PM2-33 Opposition noted for the record.

TOM HARDY: MY NAME IS TOM HARDY. I AM A CITY MANAGER OF THE CITY OF BOUNTIFUL, WHICH IS DIRECTLY AFFECTED BY MOST OF THE ALTERNATIVES PRESENTED IN THE WASATCH VARIATION. I WOULD JOIN WITH THE OTHER CITIES THAT HAVE SPOKEN PREVIOUSLY. WE BELIEVE IN TRYING TO BE RESPONSIBLE. WE UNDERSTAND THERE IS A NIVY APPROACH, NOT IN MY BACK YARD, TO A PROJECT SUCH AS THESE.

PM2-34 VERY HONESTLY, WE CANNOT, AND AS OTHERS CANNOT, UNDERSTAND WHY THIS PROJECT CANNOT BE BUILT IN THE ALIGNMENT ORIGINALLY PROPOSED BY THE MAJOR COMPONENTS OF THIS NATURAL GAS PIPELINE. THE EXPERTS WHO BUILT THOSE PIPELINES SUGGESTED AN APPROACH FAR AWAY FROM OUR METROPOLITAN AREA. WE CANNOT UNDERSTAND WHY THOSE PEOPLE, CHARGED WITH PRESENTING TO YOU A PROPOSED PIPELINE RALLY, CANNOT UTILIZE THAT EXISTING RALLY. WE UNDERSTAND FROM THEM, AS WE HAVE MET WITH THEM, THAT THE WASATCH VARIATION WAS A PROPOSAL REQUESTED BY FERC STAFF TO BE REVIEWED BASED ON ENVIRONMENTAL CONCERNS AND ECHOEING MAJOR SIMMONS' REMARKS, WE CANNOT UNDERSTAND HOW OUR AREA IS ANY LESS SENSITIVE, EITHER ENVIRONMENTALLY, POLITICALLY OR ECONOMICALLY, THAN THE ORIGINAL PIPELINE RALLY PROPOSED BY BOTH WYCAL AND BY KERN RIVER.

WITH SPECIFIC RESPECT TO THE SUPPLEMENT, WE CANNOT UNDERSTAND WHY THIS SUPPLEMENT OR THE KERN RIVER PROJECT CAN NOT UTILIZE THE EXISTING UTILITY CORRIDORS.

PM2-34 See Mr. Arvedlund's response to this later in this transcript.

BOUNTIFUL CITY, JUST THREE YEARS AGO, CONSTRUCTED A TRANSMISSION LINE, A HIGH VOLTAGE TRANSMISSION LINE, IN MEETING WITH BOTH THE FOREST SERVICE AND THE BUREAU OF LAND MANAGEMENT. WE WERE REQUIRED TO PLACE THAT HIGH VOLTAGE TRANSMISSION LINE IN THE EXISTING UTILITY CORRIDORS. THE EXACT SAME UTILITY CORRIDORS THAT IS PROPOSED TO BE USED BY BOTH WYCAL AND BY KERN RIVER UNTIL APPARENTLY -- UNTIL IT HAS A VARIANCE. WE CAN UNDERSTAND WHY IT SHOULD HAVE TO HAVE A VARIANCE. UTILITY CORRIDORS ARE PROVIDED FOR THE PLACEMENT OF UTILITY LINES. WHY IS IT THAT BOTH WYCAL AND KERN RIVER HAVE CHOSEN FOR THE PRINCIPLE RALLY ALTERNATIVE FROM AN EXISTING CORRIDOR. WE BELIEVE THAT'S A RESPONSIBLE PLACE TO PUT IT. THE ECOLOGICAL AND ENVIRONMENTAL DAMAGE THAT HAS OCCURRED THERE CANNOT BE MADE MUCH WORSE AS CERTAINLY IT STANDS TO BE MITIGATED ONCE AGAIN BY OPPOSING CONSTRUCTION.

PM2-35 WE FEEL THAT THIS IS A RESPONSIBLE APPROACH. ONE ALTERNATIVE PRESENTED TO A WYCAL SUPPLEMENT THAT HAS NOT BEEN PREVIOUSLY REVIEWED IS THE BOUNTIFUL PEAK ALTERNATIVE. OUR CITY ENGINEER, JACK BALLING, IS HERE AND AS WE REVIEWED MAP 12 OF 26 OF APPENDIX D OF THE WYCAL SUPPLEMENT, WE BELIEVE THAT AT LEAST, AS DEPICTED, THE BOUNTIFUL PEAK ALTERNATIVE HAS SEVERAL ADVANTAGES OVER THE PAGES LANE ALTERNATIVE TO BOUNTIFUL BOULEVARD ALTERNATIVE, OR THE ORIGINAL WASATCH VARIATION ALIGNMENT, AND I WILL ASK OUR

PM2-35 Thank you for your comments.

PM2-35
(cont.)

CITY ENGINEER TO SPEAK NOW.

LAURENCE SAUTER: THANK YOU, MR. HARDY. MR. JACK BALLING.

JACK BALLING: MAY I JUST TAKE A MINUTE TO READ FROM THIS DRAFT SUPPLEMENT TO EMPHASIZE WHAT MR. HARDY AND WHAT MANY OTHERS HAVE JUST SPOKEN TO YOU ABOUT. IT'S ON PAGE 2-15 AND IT SAYS: "IMPACT ASSOCIATED WITH LANDSLIDES AND SLOPE STABILITY, WATER QUALITY ISSUES AND VISUAL IMPACT, ALTHOUGH LESS SEVERE ALONG THE WASATCH VARIATION, WOULD OCCUR IN THE IMMEDIATE VICINITY OF A CAPTIVE (AND A RESULT MUCH LARGER) POPULATION. THE ADVERSE IMPACT ASSOCIATED WITH THE PROPOSED ROUTE WOULD OCCUR IN SPARSELY POPULATED AREAS OF PREDOMINANTLY PUBLIC LANDS. VISITED BY A TRANSIENT (RECREATIONAL) AND CONSEQUENTLY SMALLER POPULATION. MAKING A JUDGMENT ABOUT WHEN THESE IMPACTS TO POPULATION OUTWEIGH THE IMPACT TO THE ENVIRONMENT ITSELF, SEEM, OF COURSE, DIFFICULT. AS A RESULT OF THESE ISSUES, THE ROUTE SUGGESTED BY BOUNTIFUL CITY WERE REVIEWED."

NOW IT'S TRUE WE DID PROPOSE THE ROUTE. WE WERE, FRANKLY, GRASPING AT STRAWS TO BRING IN A HIGH-PRESSURE GAS LINE INTO A VERY SENSITIVE AREA EAST OF OUR CITY AND CUT THE MOUNTAINSIDE UP, DESTROY A LOT OF OUR WATERSHED, CAUSE PROBABLY WHAT WE KNOW EXISTS FROM THE OCCURRENCE OF 1983, '84 ON THE HIGH WATER AREAS AND THE FLOOD THAT WE HAD FROM THOSE MOUNTAIN AREAS WE ARE JUST ASKING FOR TROUBLE.

PARTICULARLY, ALREADY THE ALIGNMENT SO CHOSEN WAS FOR UP AND DOWN THE HILL AND VALLEY OF EACH ONE OF THOSE RATHER THAN TO STAY AND FOLLOW A RIDGE LINE WHERE THE EROSION PROBLEM WOULD BE. AND WE ASKED, IN THE PREVIOUS REPORTS AS WELL, THAT TO LOOK AT SOME ALTERNATIVES, TO LOOK AT SOMETHING THAT WOULDN'T BRING IN THIS PIPELINE ACROSS THAT VERY SENSITIVE AREA OF OUR WATERSHED AND DESTROYING THE NATURAL BEAUTY OF THE ONLY THING WE HAD EAST OF THE CITY CAUSING PROBLEMS OF EROSION, CAUSING PROBLEMS OF CONTROL OF VEHICLES AND EVERY OTHER PROBLEM THAT MIGHT EXIST IN THAT AREA. TRY AND PUT IT IN AN AREA WHICH WAS ALREADY CREATED BY OTHER PIPELINES NOT TO INTERFERE WITH THE PROPOSED LOCATION AND TO TRY AND ELIMINATE SOME PROBLEM.

WHEN WE MET WITH MR. ARVEDLUND LAST SPRING, HE PRESENTED SOME FACTS THAT QUITE DISTURBED US ABOUT THE HIGH PRESSURE GAS LINE, THE POSSIBILITY OF FIRE AND DANGER TO SURROUNDING PEOPLE ALONG THAT CORRIDOR OR THAT LOCATION WHERE -- EVEN FOR THE PIPELINE AND WE ARE CONCERNED ABOUT EVEN THE ALTERNATIVES. SO WE LOOKED AT OTHER ALTERNATIVES THAT WERE SUGGESTED.

PM2-36 ONE OF MY BIGGEST CONCERNS, WHICH WAS EXPRESSED BY MR. HARDY, IS WHEN AND WHY DOES THE SPARSELY POPULATED AREAS OF PREDOMINANTLY LAND HAVE SO MUCH CLOUT AND POWER OVER THE POPULATED AREAS OVER THE WASATCH FRONT. I JUST DON'T UNDERSTAND THAT. I THINK THESE THINGS CAN BE

PM2-36 See Mr. Arvedlund's response to this issue later in this transcript with respect to the reasons why the Wasatch Variation was developed.

ADDRESSED IN THE SPARSELY POPULATED AREAS JUST AS WELL AS THEY ARE NOT HEAVILY POPULATED AREAS IN THE WASATCH FRONT, AND WE OUGHT TO LOOK AT THE ORIGINAL ALIGNMENT, BUT IF THE PROPOSED WASATCH VARIATION IS THE ONLY ALTERNATIVE ALIGNMENT, THEN WE OUGHT TO LOOK AT THE ALTERNATIVES INVOLVED. IF YOU LOOK AT THE WASATCH VARIATION, YOU ARE CROSSING SIX TO SEVEN MILES OF UNDISTURBED NATURAL FORESTED GROUND. IF YOU LOOK AT THE BOUNTIFUL PEAK ALTERNATIVE AND YOU FOLLOW THE EXISTING ROAD CORRIDOR ALONG THE RIDGE, IT WON'T BE DISTURBED AND YOU ARE ENDING UP DISTURBING, PROBABLY, THREE MILES AT THE MOST OF UNDISTURBED NATURAL FORESTED LAND AND THAT'S HALF AS MUCH AS IF YOU WENT THE BOUNTIFUL PEAK ALTERNATIVE AND PREPARED THE WASATCH VARIATION.

IF YOU LOOK AT THE PROBLEMS ASSOCIATED WITH CROSSING THE POPULATED AREAS WITH WASATCH VARIATION, YOU ARE LOOKING AT ABOUT SIX TO SEVEN MILES OF POPULATED OR INDUSTRIAL PROPERTY WHICH IS BEING USED BY THE POPULATION. AND THE BOUNTIFUL PEAK ALTERNATIVE YOU ARE LOOKING AT CROSSING ABOUT A HALF A MILE BEFORE YOU REACH THE CORRIDOR OF UTAH POWER & LIGHT.

PM2-37 WE THINK THAT IF WE HAVE TO ACCEPT SOMETHING LIKE THAT THAT WE OUGHT TO LOOK AT AN ALTERNATIVE LIKE THAT, BUT FRANKLY, FROM A CITY STANDPOINT, WE ARE OPPOSED TO ANY OF THESE VARIATIONS, PARTICULARLY THE WASATCH VARIATION

PM2-37 Opposition noted for the record.

PM2-37 (cont.)

PROPOSED TO PUTTING IT DOWN BOUNTIFUL BOULEVARD.

WE ARE OPPOSED TO PAGES LANE, OR ANY OF THESE OTHERS FROM THE SAFETY STANDPOINT. IF WE OUGHT TO BRING IT INTO THIS AREA, WE WOULD HOPE THAT THE KERN -- WYCAL-KERN RIVER WOULD LOOK AT PUTTING IT IN A POSITION WHERE IT ISN'T GOING TO AFFECT THE MASS POPULATION, WHERE IT ISN'T GOING TO AFFECT THE ONLY NATURAL BEAUTY WE HAVE EAST OF BOUNTIFUL AND EAST OF CENTERVILLE, FARMINGTON AND NORTH SALT LAKE.

AND I WOULD HOPE THAT YOU GIVE THIS SOME OF YOUR CONSIDERATION. THANK YOU.

LAURENCE SAUTER: THANK YOU, MR. BALLING. MR. BILL WINN.

BOB ARVEDLUND: MY NAME IS BOB ARVEDLUND. JUST LET THE RECORD SHOW THAT HE IS RELINQUISHING HIS TIME WITH THE MAYOR'S COMMENTS PREVIOUSLY.

LAURENCE SAUTER: AT THIS POINT, I AM GOING TO HAVE A 10-MINUTE RECESS. I WANT TO GO BACK AND SEE IF THERE ARE ANY SPEAKERS THAT HAVE SIGNED UP SINCE I GOT THIS PAGE AND SOMETIMES A RECESS IS USEFUL FOR GENERATING ADDITIONAL COMMENTS. SO WE WILL RECONVENE IN 10 MINUTES.

(RECESS TAKEN.)

LAURENCE SAUTER: WE WILL NOW RECONVENE. WE HAVE ONE ADDITIONAL SPEAKER, MS. JEX. WOULD YOU PLEASE COME UP AND GIVE US YOUR NAME AND AFFILIATION.

HERMAINE JEX: HERMAINE JEX, SALT LAKE ASSOCIATION OF COMMUNITY COUNCILS. UTAH NEIGHBORHOOD, WHICH IS OUR STATEWIDE ORGANIZATION COMMUNITY COUNCIL, AND LAND USED IN NATIONAL RESOURCES COMMITTEES AND THE SALT LAKE ASSOCIATION COMMUNITY COUNCIL STRONGLY OPPOSE THE WASATCH VARIATION OF THE WYCAL PROPOSAL. WE ARE AGAINST THIS 30-INCH PIPELINE NORTH OF MILLCREEK, TRAVELERS GO SEVERAL MILES OF STEEP FOOTHILLS. MUCH OF IT IS ALREADY UNSTABLE GROUND WHERE SLIDES HAVE ALREADY OCCURRED. IN ALL PROBABILITY IT WILL AGAIN. WE ALSO BELIEVE THAT THE PIPELINE WOULD CONFLICT WITH PLANS TO MOVE OUR SEWAGE TREATMENT PLANT TO SALT LAKE CITY. ANY CLAIMED ECONOMIC BENEFITS ARE LITTLE WORTH COMPARED TO DAMAGE DONE TO OUR FOOTHILLS AND TO OUR HOMES AND THE POTENTIAL DANGER TO LIVES. IT SEEMS TO US THAT THE WYCAL PROMOTERS ARE INITIALLY REQUESTING THE PIPELINE IN CALIFORNIA, BUT IT SEEMS INEVITABLE TO US THAT TO HAVE IT BY MILLCREEK WOULD THEN BE IN A BETTER LOCATION TO MARKET THE NATURAL GAS TO SOUTHERN CALIFORNIA IN THE LOS ANGELES AREA.

PM2-38

REGARDLESS OF ANY HIDDEN AGENDA, WE FEEL THAT THE PIPELINE NEEDS NOT DAMAGE OUR AREA. OTHER ALTERNATIVES MUST BE SOUGHT WHICH DO NOT DIRECTLY IMPACT RESIDENTIAL NEIGHBORHOODS AND WE URGE YOU TO FIND ANOTHER ROUTE, EVEN CONSIDERING THE MOJAVE PIPELINE. THANK YOU.

LAURENCE SAUTER: THANK YOU VERY MUCH. I BELIEVE

PM2-38 Thank you for your comments.

THAT'S ALL THE SPEAKERS WHO SIGNED UP TO SPEAK. IF THERE IS ANYONE IN THE AUDIENCE WHO DIDN'T SIGN UP WHO WOULD NOW LIKE TO SPEAK, THE MICROPHONE IS OPEN AND THE COURT REPORTER IS RESTED. WHILE YOU CONSIDER THAT INVITATION, THE COURT REPORTER HAS REQUESTED THAT THOSE WHO HAVE READ FROM PREPARED REMARKS, IF THERE ARE COPIES OF THOSE REMARKS AVAILABLE TONIGHT, SHE WOULD FIND THEM VERY USEFUL IN SORTING OUT HER TRANSCRIBED RECORD. SO IF ANYONE BROUGHT COPIES OF THE PREPARED COMMENTS TONIGHT TO PROVIDE THEM TO THE COURT REPORTER THAT WOULD BE MOST USEFUL.

IS THERE ANYONE ELSE WHO WOULD LIKE TO SPEAK TONIGHT?

MR. ARVEDLUND: I'D LIKE TO SPEAK. MY NAME IS BOB ARVEDLUND. DURING THE COURSE OF THE EVENING, I HAVE HAD THE FEELING THAT THERE IS SOME COMMENTORS THAT DON'T HAVE THE COMPLETE HISTORY, AT LEAST OF HOW THE WASATCH VARIATION CAME TO BE. AND WITHOUT GOING THROUGH A MAJOR DIALOGUE, WE TRY TO DO A LITTLE BIT OF THAT IN THE SUPPLEMENT EIS. BUT THE PRIME, VERY PROPOSED, ROUTE, BOTH WYCAL AND THE KERN RIVER, APPLY INDEED NOT THE WASATCH VARIATION OR THE THREE ALTERNATIVES TO THAT, EITHER THROUGH BOUNTIFUL, THE ROUTE UP TOWARD BOUNTIFUL PEAK. IT'S, IN FACT, A ROUTE THAT GOES THROUGH THE UINTAH NATIONAL FOREST SOME MILES AWAY.

FROM THE VERY BEGINNING, THE UINTAH NATIONAL

PEOPLE OPPOSED THAT ROUTE FOR A VARIETY OF GEOTECHNICAL REASONS, SLOPE STABILITY REASONS, AND A LOT OF OTHER REASONS WHICH WE HAPPEN TO AGREE WITH.

AT LEAST UP TO THIS POINT, I DON'T GET THE FEELING THOUGH, IN LISTENING TO THE COMMENTS GIVEN TONIGHT AND IN THE PAST THAT THERE HAS BEEN A GREAT DIALOGUE BETWEEN THE LOCAL RESIDENTIAL COMMUNITIES AND THE FOREST SERVICE, AND I AM GOING TO SUGGEST THAT YOU DO THAT BECAUSE I THINK YOU'VE GOT TO GET AN UNDERSTANDING WHICH WE, AT FERC, ARE TRYING TO DO IN THE FINAL IMPACT STATEMENT. AND NOW THE SUPPLEMENT OF THAT HISTORY AND I GET THE FEELING, I DON'T KNOW THAT WE FAILED, BUT WE DIDN'T GO ENOUGH FOR THOSE OF YOU WHO APPARENTLY, AND WITH GOOD REASON, ARE AGAINST THE WASATCH VARIATION, AND IN SOME CASES THE THREE OLD TERMS TO IT. I REALLY SUGGEST THAT YOU GET IN TOUCH WITH THE FOREST SERVICE SO THAT YOU GET THEIR UNDERSTANDING OF WHY THE MAIN PROPOSED ROUTE IS UNACCEPTABLE TO THEM, THE ROUTE THROUGH UINTAH NATIONAL, BECAUSE I DON'T GET THE FEELING YOU PEOPLE HAVE THE FULL STORY BEHIND THIS. I MEAN, I WISH I COULD SAY I WAS WRONG, BUT FROM THE COMMENTS I AM HEARING TONIGHT, I REALLY THINK YOU HAVE GOT TO GET INVOLVED, BOTH WITH THE UINTAH NATIONAL FOREST PEOPLE, THE WASATCH NATIONAL FOREST PEOPLE, TO TRY TO GET AN UNDERSTANDING FROM A LOCAL SOURCE AND NOT FROM THOSE OF US WHO ARE SITTING ON THE EAST COAST MAKING THOSE KINDS OF

DECISIONS BECAUSE OUR IMPORT IS FROM LOCAL SOURCES OUT HERE, INCLUDING THE FOREST SERVICE.

SO I AM GOING TO ENCOURAGE YOU, AND MAYBE I SHOULD HAVE DONE THIS FROM THE VERY BEGINNING, TO GET A HOLD OF, PARTICULARLY, THE UINTAH NATIONAL FOREST PEOPLE, SO IF YOU CAN MAKE SOME ARRANGEMENTS WITH THEM, TO GAIN AN UNDERSTANDING OF THEIR DIFFICULTIES WITH THE ROUTE THROUGH THEIR FOREST, WHAT WORK THEY HAD DONE IN THE PAST BECAUSE THEY HAVE BEEN LOOKING AT THE CORRIDOR IN A NORTH-SOUTH DIRECTION OVER THERE FOR SOME 10 YEARS NOW, AND THERE ARE SOME TOUGH PROBLEMS OVER THERE WHICH IS PRECISELY ONE OF THE MAJOR REASONS THE WASATCH VARIATION WAS DEVELOPED.

WITH THAT, I WILL CLOSE MY COMMENTS AND OPEN THE FLOOR FOR ANY QUESTIONS OR ANSWERS YOU MAY HAVE AND MARY GRIGGS, FROM THE CALIFORNIA STATE LANDS COMMISSION, IS HERE TO ANSWER ANY OF YOUR QUESTIONS. THANK YOU.

CARLIN JACOBSON: I AM CARLIN JACOBSON, NORTH SALT LAKE COUNCILMAN, AND I AM A VERY CONCERNED CITIZEN AND, MR. ARVEDLUND, I BELIEVE THAT I WILL GET NOT VERY FAR IF I GO TALK TO THE UINTAH NATIONAL FOREST SERVICE BECAUSE EVEN THOUGH I AM A CITY COUNCILMAN CITIZEN, THEY HAVE A LOT OF CLOUT AND I BELIEVE THAT YOU TOOK A STAND JUST BECAUSE THEY HAPPENED TO BE FIRST TO OPPOSE AND SO YOU LOOKED AT ALTERNATIVE ROUTES, BUT WE HAVE AS MANY SLOPE PROBLEMS IN OUR AREA. IN FACT, IF YOU WANT TO WATCH CHANNEL

2 NEWS TONIGHT, WE CAN SHOW YOU A SLOPE PROBLEM OUTSIDE OF MY BACK YARD AND IT IS -- I DON'T WANT ANYBODY DIGGING THERE.

NOW, WILDLIFE MAY HAVE ITS PLACE, TREES MAY HAVE THEIR PLACE, BUT I THINK HUMANS HAVE THEIR PLACE AND THAT'S WHAT I HAVE TRIED TO PRESENT HERE TONIGHT. WHY SHOULD YOU LET A GROUP OF CITIZENS REPRESENTING THE FOREST HAVE YOU FORCE THE PIPELINE DOWN PAST THE CITIZENS, SEVERELY SHORTENING MY LIFE. AND I BELIEVE THAT, AND AS I MENTIONED, WE HAVE READ ABOUT IT IN THE PAPER AND AS SOON AS THE PAPER TOLD ABOUT THE LAST PIPELINE THAT BLEW UP, THEY CALLED ME FOR MY COMMENT.

NOW, I DON'T WANT TO BE ONE OF THOSE STATISTICS, AND I DON'T WANT MY DAUGHTER TO BE ONE, SO LET'S -- I THINK YOU FOLKS HERE ON THE STAND HAVE A DUTY TO TALK BACK AND SAY, HEY, LOOK WE CAN'T MAKE IT DOWN THE WASATCH VARIATION, WE ARE GOING TO HAVE TO LOOK AT YOUR AREA AGAIN.

NOW, MR. ARVEDLUND, PLEASE DO THAT.

MR. ARVEDLUND: I WILL INDEED DO THAT, BUT I AM HAVING A REAL PROBLEM UNDERSTANDING WHY THE LOCAL CITIZENS CAN'T TALK TO THE LOCAL FOREST SERVICE. I AM HAVING A BIG PROBLEM UNDERSTANDING WHY YOU CAN'T APPROACH THEM OR, VICE VERSA, AND THEY ARE, IN FACT, IN THE AUDIENCE LISTENING TO MY COMMENTS. I HAVE THIS MENTAL BARRIER THAT SAYS I DON'T UNDERSTAND WHY YOU CAN'T APPROACH THEM OR WHY THEY

ARE NOT LISTENING, OR WHY THERE IS NOT A DIALOGUE BETWEEN THE TWO OF YOU. I HAVE ALWAYS FELT THAT LOCAL LAND USE OR LAND CONFLICTS SHOULD BE DEALT WITH AT LOCAL LEVEL AND THE FEDERAL GOVERNMENT IN WASHINGTON, D.C. SHOULDN'T BE THE ANSWER TO THIS.

TAKING THAT POSITION IN THE SUPPLEMENTAL EIS THAT THE LOCAL LAND USE CONFLICT THAT SALT LAKE CITY HAS, NORTH SALT LAKE, AND OTHERS SHOULD BE DEALT WITH BETTER FROM A FACE-TO-FACE NEGOTIATION AND NOT RESOLVED IN WASHINGTON, D.C. I DON'T THINK THAT IS YOUR ANSWER. I REALLY BELIEVE THAT THE ANSWER LIES FROM PEOPLE SITTING DOWN LOCALLY, TRYING TO UNDERSTAND EACH OTHER'S PROBLEMS AND COMING TO SOME COMMON GROUND SOLUTIONS. AND THAT'S NOT WHAT I'M HEARING TONIGHT AND I SOMEWHAT -- I WILL WORK WITH YOU, I WILL ENCOURAGE IT IF YOU WANT ME TO ARRANGE A MEETING, I WILL DO THAT, BUT I CONTINUE TO FEEL THAT LOCAL ISSUES LIKE THIS SHOULD BE DEALT WITH IN THE LOCAL REGION AND IT DOESN'T TAKE A LOT TO SOLVE THEM. I WILL HELP YOU SOLVE THEM BECAUSE I THINK THERE ARE SOME OF THEM SHORT OF THAT WHEN YOU GET INTO THE CONDEMNATION THINGS THAT MR. BROWN IS TALKING ABOUT, BUT I DON'T THINK THAT'S THE ANSWER. I THINK WE CAN WORK OUT THIS THING BEFOREHAND AND I THINK YOU'VE GOT TO UNDERSTAND THE PROBLEMS THAT YOU MENTIONED BECAUSE SOME OF THEIR PROBLEMS ARE REAL. SOME OF THEM HAVE A LONG HISTORY. I REALLY DIDN'T GET, FROM SITTING HERE

TONIGHT, THAT SOME OF THE LOCAL PEOPLE, SUCH AS YOURSELF, HAVE THAT HISTORY AND I DON'T KNOW THAT THE EIS DIDN'T GO INTO THAT KIND OF HISTORY, IT CERTAINLY TALKED ABOUT THEIR OPPOSITION, BUT THE MULTITUDE OF REASONS, AND MAYBE IT JUST TAKES SOME -- GET OUT ON THE GROUNDS AND SEE SOME OF THE PROBLEMS THAT THEY HAVE HAD, BOTH OVER THERE AND THE PROBLEMS YOU HAVE HAD HERE. I WILL CONTINUE TO STRONGLY ENCOURAGE SOME OF THAT AND I THINK BOTH SIDES HAVE HEARD ME TONIGHT BECAUSE I SEEM TO HEAR YOU IN THE AUDIENCE, BUT I SUGGEST THAT YOU PEOPLE BE CONTACTED IF YOU HAVE A PROBLEM. I WILL GIVE SOME NAMES, YOU HAVE MY NAME AND PHONE NUMBER, YOU GIVE ME A CALL BECAUSE I WILL GIVE YOU IT. I THINK THAT'S THE SOLUTION, PARTICULARLY BEFORE CERTIFICATION, AND EVEN AFTER PROJECT CERTIFICATION, WE CAN ALL WORK THIS OUT, BUT IF YOU NEED TO UNDERSTAND WHY THIS WASATCH VARIATION WAS DEVELOPED, THEN YOU NEED TO SIT DOWN WITH SOME PEOPLE THAT YOU MENTIONED THAT ARE WILLING TO, AND IF YOU NEED OUR HELP IN DOING THAT, WE WILL GIVE IT TO YOU.

BY THE WAY, I THINK I DROVE ALL THE AUDIENCE OUT OF THE HOUSE TODAY. I BELIEVE YOU MARKED ON THIS MAP WHERE THEY LIVED NEXT TIME.

CARLIN JACOBSON: MAY I MAKE SOME SHORT STATEMENTS. I WOULD BE OPEN TO TALK TO ANYONE HERE TONIGHT AND LATER, BUT IT SEEMS LIKE YOU KNOW IT IS THE UINTAH NATIONAL

FOREST, EVEN THOUGH IT MAY BE FIELDED BY LOCAL REPRESENTATIVES, AND THEY HAVE THEIR LAND TO GUARD AND WE HAVE OURS, AND IT JUST SEEMS THAT STAND-OFF MIGHT BE THE FIRST THING THAT HAPPENS AND I GUESS THAT'S YOUR ULTIMATE --

BOB ARVEDLUND: I GUESS I ONLY WISH THAT PEOPLE WOULD HAVE SAT DOWN SOONER BECAUSE --

CARLIN JACOBSON: WE WILL TRY.

BOB ARVEDLUND: BECAUSE TIME IS RUNNING OUT. I MEAN, THIS PROJECT HAS BEEN BEFORE THE COURT SINCE 1985, YOU KNOW. A CONCLUSION TO IT IS NOT FAR AWAY. IT IS VERY PERCEPTIVE TO A UNITED ROUTE THROUGH SOME OF THIS AREA, AND I THINK IT'S JUST GOING TO TAKE SITTING DOWN AND UNDERSTANDING SOME OF THE PROBLEMS OVER THE PRIME ROUTE AND WHY WE HAVE SUGGESTED IT BE MOVED OVER HERE. I THINK PEOPLE REALLY NEED TO START TALKING TO EACH OTHER RATHER THAN YOUR COMMENT HERE -- OR LEGITIMATE, BUT I DON'T THINK I AM YOUR ANSWER OTHER THAN LEADING YOU TO THE RIGHT PEOPLE, AND I WILL GLADLY LEAD YOU TO THEM AND I WILL SIT IN THERE IF YOU NEED ME TO.

ANYBODY ELSE HAVE ANY QUESTIONS-COMMENTS? MS. JEX.

HERMAINE JEX: WELL, THE ASSOCIATION OF COMMUNITY COUNCILS HAVE COMMUNICATED WITH THE FOREST SERVICE IN -- AT MANY TIMES, AND WE HAVE ASKED THE FOREST SERVICE, ESPECIALLY THE UINTAH NATIONAL, WE CARE ABOUT THEM, THAT'S WHERE OUR

MAIN RECREATIONAL AREAS ARE, TO NOT PERMIT EXPLORATION, WE ARE FIGHTING AGAINST TIMBER CUTS AND EVERYTHING ELSE BECAUSE WE CARE WHAT HAPPENS OUT THERE, AND IT SEEMS TO US WE DON'T KNOW ALL THE DETAILS, BUT PROBABLY BOTH PLANS ARE WRONG AND TWO WRONGS DON'T MAKE A RIGHT AND WE JUST DON'T UNDERSTAND WHY THEY WOULD PLAN TO COME THROUGH THIS AREA IN THE FIRST PLACE AND WE WONDERED -- WE HAVE BEEN TOLD FOR YEARS THAT THERE IS A LIMIT, THERE IS -- THE LIFE SPAN OF THE GAS SUPPLY IS LIMITED. SO WHY ARE WE THE FIRST PLACE THAT WE ARE TAKING ALL THE WAY TO CALIFORNIA TO DO IT. IT'S A BIG ISSUE AND I REALIZE YOU ARE PROBABLY HERE, BUT WE HAVE A HARD TIME UNDERSTANDING ALL THE DETAILS. SO I JUST WANT YOU TO KNOW THAT WE HAVE COMMUNICATED WITH THE FOREST SERVICE ON MANY DEALS. THANK YOU.

BOB ARVEDLUND: JUST DON'T STOP COMMUNICATING, PLEASE. MR. BROWN.

DAVID BROWN: IF I MAY, MR. HUFFY, WHEN DID THE BOUNTIFUL HILLS RESIDENTS OF CONCERNED CITIZENS GROUP CONTACT SALT LAKE CITY, DO YOU REMEMBER THE DATE?

MR. HUFFY: SOMETIME IN FEBRUARY.

DAVID BROWN: MR. ARVEDLUND, WHAT DATE DID YOU SAY THAT THIS HAD BEEN ON THE DOCKET?

BOB ARVEDLUND: SINCE 1985.

DAVID BROWN: I HAVE A QUESTION TO YOU AND THE SPONSORS OF THIS PROJECT, KERN RIVER AND WYCAL, AS TO WHY

SALT LAKE CITY CORPORATION AND AFFILIATION WITH SALT LAKE CITY AIRPORT AUTHORITY WERE NOT CONTACTED OR NOTIFIED REGARDING THEIR INTENTION OF CONSTRUCTING A PIPELINE THROUGH THEIR PROPERTY AND ONE OF WHICH WAS THE SALT LAKE INTERNATIONAL, WAS THAT CORRECT, THE INTERNATIONAL INDUSTRIAL --

MR. HUFFY: NO, IT WAS EAST OF IT.

DAVID BROWN: AND IN 1985 TO 1988 IS APPROXIMATELY A THREE-YEAR DIFFERENCE. ALSO BOUNTIFUL, TO MY KNOWLEDGE, AND I WILL STAND TO BE CORRECTED, WAS INFORMED, AS MYSELF, AT A CITY COUNCIL MEETING IN FEBRUARY OF THIS YEAR.

I WENT TO NORTH SALT LAKE CITY AND INFORMED THEM OF IT. WE CONTACTED DAVIS COUNTY, THOSE AGENCIES DID NOT KNOW ABOUT IT. AND WE CONSEQUENTLY, MYSELF AND PEOPLE IN MY GROUP, HAVE FELT THAT THIS WAS DONE UNDERCOVER INTENTIONALLY TO GET IT THROUGH TO OUR IGNORANCE AND OUR NOT KNOWING, OUR LACK OF KNOWLEDGE OF IT. SO THAT ONCE THEY GOT TO THE CERTIFICATION PROCESS AND THE CONSTRUCTION DANGERS OF IT, WE WOULD SEE IT AND IT WOULD BE NO OPERATION. SO BECAUSE OF PROBLEMS THAT ARE SO FREQUENTLY OBSERVED AND INVOLVED IN THIS COMING TO THAT POINT, THAT'S BEEN OUR DISTRUST AND OUR FEELING IN THIS REGARD. KERN RIVER STARTED TALKING TO US AFTER WE FINALLY GOT SOME NEWS AND AFTER WE BECAME -- WE FILED A MOTION TO LEAVE TO INTERVENE IN THE PROCESS BECAUSE WE FELT THAT THAT WAS OUR BEST OPPORTUNITY

TO GET OUR COMMENTS ON THE PUBLIC RECORD. WE DON'T, FOR MYSELF AND FOR BOUNTIFUL HILLS RESIDENTS AND CONCERNED CITIZENS OUTSIDE OF THE FACT THAT WE WILL BE ABLE TO SUBMIT WRITTEN COMMENTS WILL BE OUR LAST REAL SHOT TO GET OUR COMMENTS ON PUBLIC RECORD AND BE INVOLVED IN THE DECISION-MAKING PROCESS AND, CONSEQUENTLY, WE FEEL THAT WE HAVE BEEN SHORT-CHANGED ON OUR COMMUNICATION AND NOTIFICATION AND I WILL TURN THE TIME OVER TO YOU, YOU MAY RESPOND TO THAT.

BOB ARVEDLUND: I AM NOT GOING TO RESPOND IN A LENGTHY WAY. IT'S OBVIOUS THAT THE CITY OF SALT LAKE, THE CITY OF BOUNTIFUL, PERHAPS OTHERS, BUT CERTAINLY THOSE WHO SHARE A DIFFERENT VIEWPOINT ABOUT NOTIFICATION TO THEM, AT LEAST ON BEHALF OF FERC, STAMPED WE HAVE DEMONSTRATED IN FERC HEARINGS IN WASHINGTON, D.C. ON THIS ISSUE. WE HAVE SHOWN WHO WE NOTIFIED IN LIGHT OF THE RESPECTIVE CITIES AS FAR BACK AS TWO, TWO AND A HALF, MAYBE EVEN THREE YEARS AGO. I WILL REST MY CASE THERE. WE KNOW WHO GOT NOTIFIED IN THE CITY OF SALT LAKE. WE KNOW WHO GOT NOTIFIED IN THE CITY OF BOUNTIFUL, AS FAR BACK AS LATE '85 OR EARLY '86. YOU KNOW I AM NOT GOING TO REALLY GET INTO A DEBATE HERE TONIGHT, EITHER WITH MR. HUFFY OR ANYONE ELSE, AS TO WHO WE NOTIFIED. AND I AM NOT GOING TO SPEAK ON BEHALF OF KERN RIVER, BECAUSE I CAN'T, AS TO WHO THEY TALKED TO. THEY HAVE THEIR OWN RECORD OF WHO THEY SPOKE TO. WE CLEARLY

HAVE A DIFFERENCE OF OPINION WHO GOT WHAT INFORMATION AND WHEN I WILL LET WHOEVER IT IS HAVE TO DECIDE IN OUR HEARING ROOM. YOU KNOW, WAS PROPER NOTIFICATION GIVEN AND THAT'S AT ISSUE IN THIS CASE. AND SO OUR OPINION, THE JUDGE HAS ALREADY RULED TWICE IN FERC'S FAVOR, THE PROPER NOTIFICATION WAS GIVEN. I DON'T KNOW THAT YOU ARE AWARE OF THAT, BUT IT GOES BACK TO THOSE EARLY PERIODS OF TIME. THAT TO ME IS JUST NOT A DEBATABLE ISSUE. WE KNOW WHO WAS NOTIFIED. WE TOLD THOSE CITY OFFICIALS WHO WERE NOTIFIED. YOU KNOW, OTHER THAN THAT, THEY CAN SAY THEY DIDN'T GET IT OR SHOW IT WAS MISPLACED, BUT WE KNOW SOMETHING WAS MET, WE HAVE OUR ORIGINAL MAILING LIST. I WILL LEAVE IT AS A NOTIFICATION OR OPINION WAS GIVEN LONG BEFORE 1988. DON'T LET MY VOICE DROPPING OUT NOT MAKE YOU WANT TO ASK QUESTIONS.

CARLIN JACOBSON: CARLIN JACOBSON AGAIN FOR NORTH SALT LAKE CITY, COUNCILMAN. I STILL DON'T BELIEVE NORTH SALT LAKE WAS NOTIFIED. AND THAT YOU USED, IN THE LATEST SUPPLEMENT, SOME STILL OUT OF DATE MAPS. WE HAVE 6,000 PEOPLE IN OUR CITY, NOT 3,000. SO THE ARBITRARY LINE THAT YOU DRAW WITH PENCIL, PEN, BLACK MARKER, WHATEVER, JUST HAPPEN TO CROSS SUCH AS OUR WATER TANK, A MILLION GALLON WATER TANK, SUCH AS SCHOOL PROPERTY ALREADY PLANNED, SUCH AS SUBDIVISION WHERE OUR MAYOR LIVES NOW. THE LEAST YOU FOLKS COULD HAVE DONE WAS UPDATED THE MAP.

BOB ARVEDLUND: I WILL WORK ON THE MAP.

CARLIN JACOBSON: THANK YOU.

BOB ARVEDLUND: LET ME MAKE A GENERAL COMMENT ABOUT MAPS BECAUSE THE LEVEL OF DETAIL IS PRESENTED IN THESE EIS'S AND NOT JUST THIS ONE. IT HAS NEVER BEEN DESIGNED TO GET DOWN TO THAT KIND OF DETAIL THAT YOU ARE TALKING ABOUT. WE HAVE A LOT OF MAPS, MORE RECENT, MORE DETAILED MAPS, THAN WHAT THE WHOLE PURPOSE OF GIVING YOU WHATEVER KIND OF DETAILED MAPS WE CAN AND QUITE FRANKLY A LOT OF THEM ARE NOT DETAILED. WE WOULD LIKE TO GIVE THEM A SUMMARY, JUST TO PRESENT A BASIC UNDERSTANDING OF WHERE THE ROUTE IS. YOU KNOW, FROM POINT A TO POINT B. TO GET DOWN TO THE MAPS YOU GAVE ME LAST TIME, I AM NOT ADMITTING THAT WE HAVE THEM OR DON'T HAVE THEM, BECAUSE I DIDN'T HAVE THAT ONE LAST TIME AND I STILL COULDN'T FIND A WATER TANK GOING UP THERE TODAY FOR TWO HOURS.

CONTINUING ON, JUST A LITTLE BIT WITH THE MAP PROBLEMS. THE MAP TYPICALLY PUT IN THE EIS OR THE USGS 15-MILE MAPS, MORE THAN THE 7½-MILE ONES. WE RECOGNIZE THAT USING SOME OF THE USGS MAPS HAVE AN AGE DEFICIENCY AND THE FACT THAT MANY OF THEM ARE 15, 20, OR MAYBE 50 YEARS OLD IS PRECISELY THAT REASON WHY WE GO OUT INTO THE FIELD AND TRY AND GET A LITTLE BIT BETTER INFORMATION ON THE STUFF. SO I AM NOT TRYING TO IMPLY THAT WE DON'T HAVE SOME OF IT, BUT THE MAP THAT WE PUT INTO AN EIS FOR A PREDOMINENT PURPOSE IS REALLY JUST TO IDENTIFY WHERE THIS

ROUTE IS GOING, FROM POINT A TO POINT B TO C, THAT IS NOT SUPPOSED TO GIVE YOU THAT KIND OF A DETAIL WHICH RESIDENTS OR WHERE JUST -- QUITE FRANKLY, THOSE MAPS WOULD BE OUT OF DATE. IT'S JUST A MATTER OF DEGREE, BUT I DON'T WANT TO LEAVE THE IMPRESSION THAT WE HAVE ALL -- WE HAVE SOME 14 OR 20-YEAR-OLD MAPS, BECAUSE THAT IS SIMPLY NOT TRUE. THAT FACT REMAINS, AS WE DRIVE THESE ROUTES, WE DRIVE THESE ROUTES DEPENDING ON THE PROJECTS, WE WILL TAKE AERIAL PHOTOGRAPHS, WE DO GO TO SOME MORE THAN JUST BASICALLY A TEAM TO TRY AND GET THE BEST INFORMED WE CAN ON THAT. SO DON'T GET DISILLUSIONED THAT A MAP, THAT YOU SEE IN AN EIS AT THIS ONE OR ANY OTHER FEDERAL AGENCY -- AND WE KNOW THEY ARE OUT OF DATE, BUT THAT DOESN'T MEAN WE ARE RELYING ON THAT INFORMATION.

ANY FURTHER QUESTIONS, COMMENTS. MR. BROWN.

DAVID BROWN: MUCH TO SAY -- BY THE WAY, FOR THE RECORD, MY NAME IS DAVE BROWN.

MUCH TO SAY, SO LITTLE TIME TO SAY IT IN, SO LITTLE ORGANIZED TO SAY IT, BUT IN BRIEF, I BELIEVE THAT THE FINAL SUPPLEMENT TO THIS, TO THE WYCAL PROPOSAL, SHOULD EXPLORE THIS PREMISE AND THE PREMISE IS DO THE LONG-TERM ENVIRONMENTAL CONSEQUENCES JUSTIFY THE SHORT-TERM ECONOMIC GAINS? I WOULD LIKE TO SEE THAT CONSIDERED AND AT LENGTH IN THE ECONOMIC PART OF THE FINAL SUPPLEMENT. I JUST HAD THAT ONE THOUGHT THAT I DID NOT MENTION WHEN I SPOKE

BEFORE, THAT IF THAT MAY BE ENTERED INTO THE FINAL SUPPLEMENT. THANK YOU.

LAURENCE SAUTER: THANK YOU FOR YOUR COMMENTS. LET THE RECORD SHOW AT 8:55 P.M., THIS MEETING CAME TO A CONCLUSION. THANK YOU VERY MUCH FOR COMING.

(PUBLIC HEARING CONCLUDED.)

BLM Library
Denver Federal Center
Bldg. 50, OC-521
P.O. Box 25047
Denver, CO 80225

STATE OF UTAH)
: SS.
COUNTY OF SALT LAKE)

I, JANE MARY FARLEY, SHORTHAND REPORTER AND NOTARY PUBLIC WITHIN AND FOR THE COUNTY OF SALT LAKE, STATE OF UTAH, DO HEREBY CERTIFY:

THAT THE FOREGOING PUBLIC HEARING WAS TAKEN BEFORE ME AT THE TIME AND PLACE SET FORTH HEREIN AND WAS TAKEN DOWN BY ME IN SHORTHAND AND THEREAFTER TRANSCRIBED INTO TYPEWRITING UNDER MY DIRECTION AND SUPERVISION;

THAT THE FOREGOING PAGES CONTAIN A TRUE AND CORRECT TRANSCRIPTION OF MY SAID SHORTHAND NOTES SO TAKEN.

IN WITNESS WHEREOF, I HAVE SUBSCRIBED MY NAME AND AFFIXED MY SEAL THIS 6th DAY OF September, 1988.

Jane Mary Farley
JANE MARY FARLEY, CERTIFIED
SHORTHAND REPORTER AND NOTARY
PUBLIC

BLM Library
Denver Federal Center
Bldg. 50, OC-521
P.O. Box 25047
Denver, CO 80225